Audit of Forest Planning and Practices, and Forest Practices Code Enforcement in the Fort Nelson Forest District

FPB/ARC/50

October 2002

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I. Report from the Chair

I. Report from the Chair

Introduction

In June 2001, the Forest Practices Board (the Board) undertook a series of audits in an area within the Fort Nelson Forest District. This report, in addition to the published audit reports, is provided as an overview to assist the public to understand the effectiveness of overall forest stewardship in the audit area. Under section 189 of the *Forest Practices Code of British Columbia Act*, the Board chair is empowered to make such a special report regarding a matter that is in the public interest. This report is drawn from audit evidence and additional observations; and, in conjunction with the audits, reports on the overall stewardship of the land within the audit area.

The audit area was randomly selected in two stages. First, the district was randomly selected from a list of eleven forest districts that had not had a Board audit within the past three years. Once the district was chosen, it was divided into several landscape unit clusters. The clusters were compiled using criteria designed to ensure the amount of forestry activity subject to the Code was large enough to audit, but not too large given the available resources for the audit. A landscape unit cluster was then randomly selected, resulting in the "Klua area" being chosen.

The Klua area is roughly 385,000 hectares in size, and consists of the Eskai, Klua, and Big Beaver landscape units, plus portions of two riverine landscape units. The audit area extends from Fort Nelson southwest along the Prophet River and southeast along the Fort Nelson River to the Fort Nelson Forest District boundary (see map on page 6). The area is sparsely populated with Prophet River having the only concentration of people, including the Prophet River First Nations community of approximately 100 residents.

The terrain is predominantly flat with fine textured, erodable soils; its relief is mainly determined by watercourses. The river corridors, which border the area on two sides, are roughly 100 metres below the elevation of the majority of the area. The land has mountainous relief in the vicinity of the Klua Lakes Protected Area in the southern portion.

Code activities and obligations that were audited

The intent of this area-based audit was to examine all Code-related activities within the selected geographic area. The major planning, practices and obligations audited are as follows:

- Slocan Forest Products Ltd. Compliance with the Code for portions of three licences that fell within the selected audit area – Forest Licences A17007 and A22797 and Pulpwood Agreement 14.
- Code-related oil and gas activities – a single report for all auditees on compliance with the Code.
- The appropriateness of government's enforcement of the Code – a single report examining the enforcement of the Code by the Ministries of Forests and Water, Land and Air Protection; and the Oil & Gas Commission.

Audit reports describing the results of these three audits are found in Part II of this report.

Other activities were very limited and not of sufficient extent to warrant a separate audit report. The results of these audits are summarized as follows:

- **Range** – three range tenures, two inactive during the audit period, one active (150 cow/calf) and in compliance with the Code in all significant respects.
- **Small Business Forest Enterprise Program** – a small amount of operational planning was conducted within the audit area during the audit period and no issues were noted. Because there were no harvesting or road construction activities to audit, a separate audit report was not prepared.
- **Canadian Chopstick Manufacturing Company** expired forest licence – the forest licence was cancelled on March 19, 2001, before the field audit was undertaken, and no activities under the licence occurred during the audit period. Another licensee and the district's Timber Sales Program have taken on the responsibility for the road maintenance and deactivation obligations and, although some areas harvested under the forest licence have not yet attained free-growing status, responsibility for this obligation has yet to be assumed by anyone.

Stewardship for Oil and Gas Activities

Oil and gas activities regulated by the Code are mainly timber harvesting and road construction, maintenance and deactivation. Timber harvesting takes place during pipeline

and road construction, as well as in exploration work where seismic lines with widths from 1.5 metres to 6 metres are cleared. Seismic lines cover extensive areas and involve many kilometres of harvesting. Road construction and maintenance is mainly associated with development work, involving establishment of well sites, pipelines, gravel quarries and other improvements. The highest environmental risks related to forest practices are associated with pipelines, roads and seismic lines, because of frequent stream crossings. Well sites are usually the lowest-risk areas because of their small size.

The Oil and Gas Commission (OGC) acts as a one-window agency for oil and gas clients. The Commission has been granted substantial authority under a variety of acts and regulations to administer the industry and help ensure environmental stewardship. This approach has strong merits in meeting client needs. However, there have been few adjustments made to regulatory requirements for forest practices to address the unique nature of the oil and gas industry. This presents challenges to both the industry and the regulatory agencies. It is the Board's view that, as long as the regulatory environment and practices generally achieve the principles stated in the Code's preamble, then the stewardship of forest resources for oil and gas activities is appropriate.

The Board notes that the OGC uses at least four different legislative acts to fulfill its mandate and safeguard the environment. The audit found that gaps and inconsistencies are a result of this regulatory environment, and these are discussed in the following sections of this report.

Logging Plans

During the audit period, virtually all oil and gas related timber harvesting and road construction approvals issued for the audit area included a logging plan. Logging plans are submitted by the proponent and approved by the OGC under the authority of the Code. During the audit period, the enforcement of logging plans was the responsibility of the Code ministries, generally the Ministry of Forests. The audit found that this arrangement did not work effectively.

Since the audit was carried out, the OGC has implemented a new policy that replaces the requirement for logging plans with a requirement for "timber harvesting and field assessments" for proposed oil and gas activities under the *Petroleum and Natural Gas Act*. At this time, it is unclear if these assessments will be subject to the Code; if not, the consequence could be different environmental standards for timber harvesting by the oil and gas industry than apply to the forest industry. It is unknown whether these assessments will achieve the same standard of environmental stewardship as the Code requires for the same activity. This is a potential concern.

Roads

The Board does not see the need for the variety of legislation and regulation, each with its own standards and requirements, that applies to oil and gas roads in British Columbia. Our audit showed that roads can be authorized and built under the *Petroleum and Natural Gas Act*, the *Pipeline Act* or the *Land Act*, or under various road and special use permits under the *Forest Practices Code of British Columbia Act*. Not all road construction and maintenance activities are required to comply with the Code. Within the scope of this audit, permanent access roads—as opposed to temporary roads—specific to oil and gas activities were constructed under the *Land Act*. Roads constructed under the *Land Act* are not subject to the Code. Further, those roads constructed under the *Land Act* did not have clear construction, maintenance or deactivation standards, unlike roads subject to the Code.

Temporary roads that accessed new well sites in the audit area were generally constructed under the authority of the *Petroleum and Natural Gas Act* and, as such, are subject to most Code requirements for construction, maintenance and deactivation. However, at the time of our audit, the OGC did not have the authority to enforce these Code provisions.

The Board is concerned with both the variability, and in some cases absence, of road standards for oil and gas roads, coupled with the Oil and Gas Commission's lack of authority to enforce road construction, maintenance and deactivation provisions of the Code.

Old Alaska Highway

The Alaska Highway runs north to south through the entire audit area. A portion of the highway was relocated several years ago. Although parts of the old route were fully deactivated and have become environmentally stable over time, several segments were left in a state that allowed continued public use. In those areas, the auditors noted several instances of washed out culverts, and loss of road surface resulted in significant erosion of material into streams classified by default as fish bearing. The old road is considered a non-status road and, consequently, no agency presently has responsibility for maintaining or deactivating it to prevent further damage. This is a concern.

Regardless of its status, to mitigate further negative environmental impacts on forest resources, some work could and should be undertaken to environmentally stabilize this road, preferably to a level at least consistent with the Ministry of Forests' new wilderness road designation.

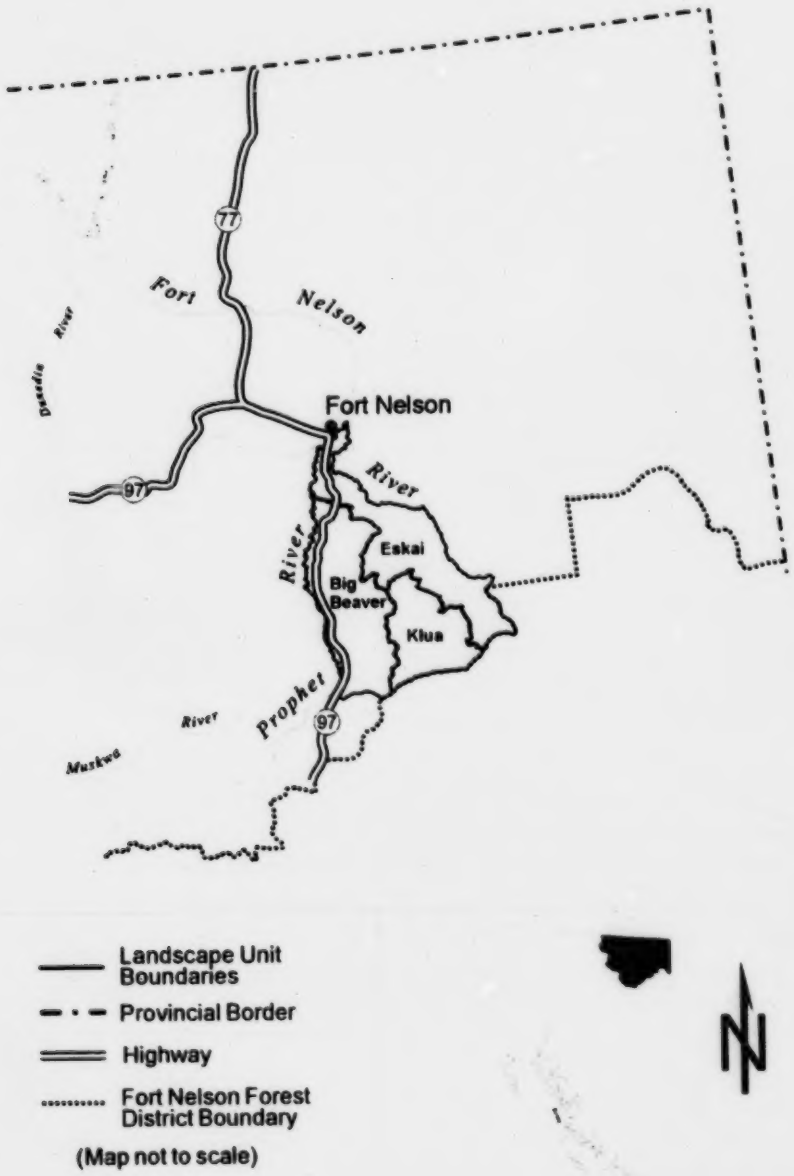
Overall condition of the land

With the exception of the Board's audit of forestry activities on Nisga'a land, required by the Nisga'a Treaty, this was the first area-based audit undertaken by the Board. The Board concludes that there was a high degree of compliance with the Code within the audit area and period and, for the most part, impacts observed were within the acceptable limits envisioned by the Code. Notwithstanding:

- there were significant concerns noted on some stream crossings with gas pipelines, which appear to be a reflection of past practices and may not be indicative of current practice.
- there was insufficient evidence to determine the level of impact of sedimentation from oil and gas activities on fish habitat.
- inadequate silviculture practices found on sites located in valley bottoms are a serious concern. The Board notes that the licensee is now actively addressing these problems.
- there is very little range use and very little environmental impact was noted from range practices.
- the audit of Code-related activities did not identify any significant impacts to wildlife values.

W.N. (Bill) Cafferata, RPF
Chair, Forest Practices Board
October 10, 2002

Audit of Eskai, Klua and Big Beaver landscape unit area



II. Audits of Forest Planning and Practices

A. Compliance Audit Process

B. Audit of Slocan Forest Products and Tackama Forest Products

C. Audit of Oil and Gas Activities

A. Forest Practices Board Compliance Audit Process

Background

The Forest Practices Board conducts audits of government and agreement-holders for compliance with the *Forest Practices Code of British Columbia Act* and regulations (the Code). The Board has the authority to conduct these periodic independent audits under section 176 of the *Forest Practices Code of British Columbia Act* (the Act). Compliance audits examine forest planning and practices to determine whether or not they meet Code requirements.

Audit Standards

Audits by the Forest Practices Board are conducted in accordance with the auditing standards developed by the Board. These standards are consistent with generally accepted auditing standards.

The audits determine compliance with the Code based on criteria derived from the *Forest Practices Code of British Columbia Act* and its related regulations. Audit criteria are established for the evaluation or measurement of each practice regulated by the Code. The criteria reflect judgments about the level of performance that constitutes compliance with each requirement.

The standards and procedures for compliance audits are described in the Board's *Compliance Audit Reference Manual*.

Audit Process

Conducting an Area-Based Audit

Once the Board selects the area to be audited, the audit period and the staff and resources required to conduct the audit are determined. Board staff also meet with the parties being audited to discuss the logistics of the audit before commencing the work. The parties involved could be forest companies, oil and gas companies, woodlot owners or ranchers.

All the activities carried out during the period subject to audit are identified; for example, harvesting or replanting sites and building or deactivating road sections. The items that make up each forest or range activity are referred to as a "population." For example, all sites harvested by a specific licensee form the "timber harvesting population" for that licensee. All road sections constructed by a specific licensee form the "road construction population" for that licensee. The populations are then sub-divided based on factors such

as characteristics of the sites and potential severity of the consequences of non-compliance on the sites.

For each population of each licensee, the auditors choose the most efficient means of obtaining information to conclude whether there is compliance with the Code. Because of limited resources, auditors usually rely upon sampling to obtain audit evidence, rather than inspecting all activities.

Individual sites and forest or range practices within each population have different characteristics, such as the type of terrain, type of yarding or grazing levels. Each population for each licensee is divided into distinct sub-populations on the basis of common characteristics (e.g., steep ground vs. flat ground). A separate sample is selected for each population (e.g., the cutblocks selected for auditing timber harvesting). Within each population, more audit effort (i.e., more audit sampling) is allocated to the sub-population where the risk of non-compliance is greater.

Audit work in the field includes assessments from the air using helicopters and intensive ground procedures, such as measuring specific features like road or riparian reserve zone width. The audit teams generally spend one to three weeks in the field.

Evaluating the Results

The Board recognizes that compliance with the many requirements of the Code is more a matter of degree than absolute adherence. Determining compliance, and assessing the significance of non-compliance, requires the exercise of professional judgment within the direction provided by the Board.

Auditors collect, analyze, interpret and document information to determine the audit results. The audit team, composed of professionals and technical experts, first determines whether forest practices are in compliance with Code requirements. For those practices considered to not be in compliance, the audit team then evaluates the degree to which the practices are judged not in compliance. The significance of the non-compliance is determined based on a number of criteria, including the magnitude of the event, the frequency of its occurrence and the severity of the consequences.

As part of the assessment process, auditors categorize their findings into the following levels of compliance:

Compliance – where the auditor finds that practices meet Code requirements.

Not significant non-compliance – where the auditor, upon reaching a non-compliance conclusion, determines that a non-compliance event, or the accumulation and consequences of a number of non-compliance events, is not significant and is not considered worthy of reporting.

Significant non-compliance – where the auditor determines that the event or condition, or the accumulation and consequences of a number of non-compliance events or conditions, is or has the potential to be significant, and is considered worthy of reporting.

Significant breach – where the auditor finds that significant harm has occurred, or is beginning to occur, to persons or the environment as a result of the non-compliance. A significant breach can also result from the cumulative effect of a number of non-compliance events or conditions.

Identification of a possible significant breach requires the auditor to conduct tests to confirm whether or not there has been a breach. If it is determined that a significant breach has occurred, the auditor is required by the *Forest Practices Board Regulation* to immediately advise the Board, the party being audited, and the Ministers of Forests, Energy and Mines, and Water, Land and Air Protection.

Reporting

Based on the above evaluation, the auditor then prepares the "Report from the Auditor" for each auditee for submission to the Board. The parties being audited are given a draft of their report before it is submitted to the Board so that the party is fully aware of the findings. The auditee is also kept fully informed of the audit findings throughout the process, and is given opportunities to provide additional relevant information and to ensure the auditor has complete and correct information.

Once the auditor submits the reports, the Board reviews them and determines if the audit findings may adversely affect any party or person. If so, the party or person must be given an opportunity to make representations before the Board decides the matter and issues a final report to the public and government. The representations allow parties that may potentially be adversely affected to present their views to the Board.

At the discretion of the Board, representations may be written or oral. The Board will generally decide on written representations, unless the circumstances strongly support the need for an oral hearing.

The Board then reviews the report from the auditor for each auditee and the representations from parties that may potentially be adversely affected before preparing its final report, which includes the Board's conclusions and, if appropriate, recommendations.

If the Board's conclusions or recommendations result in newly adversely-affected parties or persons, additional offers of representations would be required.

Once the representations have been completed, the reports are finalized and released: first to the respective auditees and then to the public and government.

B. Audit of Forest Planning and Practices: Slocan Forest Products and Tackama Forest Products

Board Report

This is the Board's report on the compliance of major forest tenures with the Forest Practices Code in the audit area. The area selected for audit is made up of a cluster of the Eskai, Klua, and Big Beaver landscape units, plus portions of two riverine landscape units. The audit area extends from Fort Nelson southwest along the Prophet River and southeast along the Fort Nelson River to the Fort Nelson Forest District boundary (see map on page 6). All Code-related activities therein were subject to audit.

Licences audited were portions of Pulpwood Agreement 14 held by Slocan Forest Products Ltd. (Slocan), and portions of Forest Licences A17007 and A22797 held by Slocan's wholly-owned subsidiary, Tackama Forest Products (Tackama). Slocan and Tackama share many resources and, for the purposes of this report, are jointly referred to as Slocan.

The Report from the Auditor provides further details on the scope of the audit, and the audit findings. The Report from the Auditor is based on the audit procedures described in Part II A of this report.

The audit examined Slocan's operational planning; timber harvesting; road construction, maintenance and deactivation; silviculture practices and obligations; and fire protection practices for the period from January 1, 2000, to June 29, 2001.

The Board considered the Report from the Auditor, along with supporting audit evidence, and written representations from Slocan. The Board affirms the auditor's findings and conclusions. The Board cautions the reader not to extrapolate the results of this audit to Slocan's operations outside the boundaries of the area audited.

The audit evaluated 15 cutblocks with a combined area of 398 hectares for compliance with free-growing obligations. Of these, 13 cutblocks with a combined area of 384 hectares did not have free-growing stands established within the time specified in the original silviculture prescriptions. These stands were logged from December 1987 through March 1991, and were predominately cottonwood.

In all other significant respects, Slocan's activities complied with Code requirements for operational planning; harvesting; fire protection planning; and road construction, maintenance and deactivation activities.

The auditor of record considered the silviculture non-compliance to be serious, and gave an adverse opinion regarding the adequacy of Slocan's management of silviculture. In its representations to the Board, Slocan stated that "there is no ongoing obligation to meet free growing after the expiry of the free grow assessment period," and claimed that free-growing obligations that were not met prior to the audit period are therefore not subject to audit. Slocan further argued that "if the obligation is not met within the free growing assessment period, the silviculture prescription is extinguished and the obligation falls to the government to address the matter" under remediation provisions of both the *Forest Practices Code of British Columbia Act* and the *Forest Act*.

The Board's position is that free-growing obligations continue until fulfilled or otherwise remedied and, therefore, obligations that exist within the audit period are subject to audit. The Board believes that Slocan's interpretation of the legislation, if widely held, could have significant economic consequences for government. Nonetheless, the Board notes that Slocan has reported increased attention to meeting its silviculture obligations on the cutblocks in question subsequent to our audit.

The results of this audit highlights a need for the results based code to establish a strong and consistent monitoring presence, at benchmarked intervals, to ensure that key results are achieved within appropriate timeframes on public forest lands.

W.N. (Bill) Cafferata, RPF
Chair, Forest Practices Board
October 10, 2002

Auditor of Record Report: Slocan Forest Products and Tackama Forest Products

1.0 Introduction

Area-based audit

As part of its 2001 compliance audit program, the Forest Practices Board selected three draft landscape units in the Fort Nelson Forest District for audit. The area-based audit examined the activities of all parties with responsibilities under the *Forest Practices Code of British Columbia Act* and regulations (the Code), including forest tenure holders, range tenure holders, oil and gas companies, and resource agencies, as well as government Code enforcement activities. The results of the audits of the various parties are reported separately.

This report describes the audit of the planning and practices of Slocan Forest Products Ltd. (Slocan), the only major forest licensee operating in the area. Three forest tenures were audited- Slocan's Pulpwood Agreement 14, and Forest Licences A17007 and A22797 held by its wholly owned subsidiary, Tackama Forest Products (Tackama). Slocan and Tackama operate from the same office and utilize the same staff and resources and, for the purposes of this report, will be jointly referred to as Slocan.

Fort Nelson was selected randomly from 11 forest districts, and the three landscape unit areas were selected randomly to provide a cross-section of forest activity.[1] In addition to the three landscape units, Eskai, Klua, and Big Beaver, the audit area includes portions of two riverine landscape units. The audit area is roughly triangular in shape extending from Fort Nelson southwest along the Prophet River and southeast along the Fort Nelson River to the Fort Nelson Forest District boundary (see map).

The draft landscape units subject to audit are contained within the Fort Nelson Land and Resource Management Plan (LRMP). The area of the landscape units comprises a fairly small percentage of the Fort Nelson Timber Supply Area (TSA). The TSA encompasses approximately 9,859,000 hectares (more than 11 percent of the area of British Columbia) and the audit area encompasses approximately 385,000 hectares.

Both the forest licences and the pulpwood agreement are volume-based licences within the Fort Nelson TSA and lie within the Fort Nelson Forest District. As this was an area-based audit, only the activities occurring under these licences within the audit area were examined.

The forest licences have a combined allowable annual cut of 1,284,716 cubic metres. The actual volume cut in the audit area during the audit period was approximately 250,000 cubic metres.

The audit area is generally flat with poorly defined drainages, except for main river and stream channels. There is typically poor drainage and muskeg conditions, thus the vast majority of timber harvesting occurs when the ground is frozen. Snow roads and ice bridges comprise a large portion of the road network, and therefore most road construction activity also occurs in the winter months. Many of the haul roads are on seismic lines that were previously cleared by oil and gas companies.

Land use plan status

The Fort Nelson LRMP was approved in 1997, but has not been declared a higher level plan. The audit area lies within the enhanced resource development category of the Resource Management Zone (RMZ), except for the two river corridors, which are in the general management category, and the Klua Lakes Protected Area. The audit area consists of the Klua RMZ, a portion of the Fort Nelson RMZ, a portion of the Alaska Highway Corridor RMZ and the Klua Lakes Protected Area. There are no higher level plans in place for the audit area.

2.0 Audit Scope

The audit examined Slocan's activities and obligations related to operational planning (including the forest development plan[ii] and silviculture prescriptions[iii]); timber harvesting; silviculture; fire protection; and the construction, maintenance and deactivation of roads. These activities were assessed for compliance with the Code. The licences subject to audit were FL A17007 and A22797, and PA14.

The activities subject to audit were those that occurred within the audit area. Only the portions of the forest development plan that applied to the audit area were examined. The period for which activities were examined was January 1, 2000, to June 29, 2001.

The activities and obligations within the audit area during the audit period, and therefore subject to audit, were:

- harvesting of 20 cutblocks (13 under FL A17007 and 7 under PA 14)
- construction of 12 road sections totalling 24.5 kilometres
- maintenance of approximately 17.2 kilometres of previously deactivated road
- deactivation of 14 road sections totalling 62.2 kilometres

- construction of 1 bridge
- planting of 4 harvested openings
- chemical brushing on 4 openings
- manual brushing on 2 openings
- regeneration obligations on 2 openings
- free-growing obligations on 15 openings (12 in A22797 and 3 in A17007), and
- fire-preparedness planning, fuel management, and hazard abatement.

The activities carried out by Slocan during the audit period under both licences were approved in the 1999-2004 forest development plan. This plan also includes FL A22797, held by Slocan, but no operations for FL A22797 occurred or were proposed within the audit area. In addition, two silviculture prescriptions were approved during the audit period, but harvesting had not yet started.

Section 3.0 describes the results of the audit. The Board's audit reference manual, *Compliance Audit Reference Manual*, Version 5.0, May 2001, sets out the standards and procedures that were used to carry out this audit.

3.0 Audit Findings

Planning and practices examined

The audit work on selected roads and cutblocks included ground-based procedures and assessments from the air using helicopters. The audit examined:

- harvesting practices on 20 cutblocks (13 under FL A17007 and 7 under PA14)
- construction of 12 road sections totalling 24.5 kilometres
- maintenance of approximately 17.2 kilometres of previously deactivated road
- deactivation of 14 road sections totalling 62.2 kilometres
- construction of 1 bridge
- planting of 4 openings
- chemical brushing on 3 openings

- manual brushing on 2 openings
- regeneration obligations on 2 openings
- free-growing obligations on 15 openings (12 in A22797 and 3 in A17007), and
- fire-preparedness planning, fuel management, and hazard abatement.

The audit also examined the 1999-2004 forest development plan and its approved amendments. In addition, the audit examined silviculture prescriptions for two cutblocks where harvesting had not yet started.

It was not possible to examine Slocan's compliance with Code requirements for fire equipment in the field because the harvesting and road construction operations for the licences were inactive during the time of the field audit. Slocan's fire-preparedness plan and fire-hazard abatement practices were examined.

Findings

The audit found that the operational planning; timber harvesting; road construction, maintenance and deactivation and fire-protection planning of Slocan in the audit area complied with Code requirements in all significant respects.

In the area of silviculture, the audit identified a significant non-compliance relating to Slocan's obligation to achieve free-growing stands in harvested areas. In 13 of 15 openings, covering an area of approximately 398 hectares, Slocan had not replaced the harvested stands with free-growing stands within the specified time. Twelve of the openings were required to attain free-growing cottonwood stands, while three were required to produce conifer stands.

Silviculture prescriptions, prepared and approved prior to harvest, describe what must be regenerated and specify time frames for the establishment of a new stand and for the new stand to be declared free growing.[iv] Within the free growing assessment period specified in the prescription, a survey must be carried out to determine whether the area covered by the prescription meets the free-growing requirements. Slocan had completed surveys on all 15 openings. The audit confirmed the accuracy of these surveys, which show that 13 of the 15 openings sampled do not have free-growing stands.

This non-compliance relates to failure to establish a free-growing stand, as required by section 70(3) of the *Forest Practices Code of British Columbia Act* (the Act).

The non-compliance was considered significant due to the following:

- The attainment of a free-growing stand is the ultimate goal of basic silviculture. Once a harvest area is free growing, the government can assume responsibility for its

stewardship, since the licensee has successfully re-established a commercially viable, immature stand. The right to harvest the Crown resource is given on the condition that the licensee will return the stewardship of the area to the Crown in a condition that is defined by legislation and required by the licence.

- Twelve of the fifteen openings in the audit area do not have a sufficient number or distribution of acceptable trees to achieve a free-growing stand in the future.

- In circumstances where the desired results of a silviculture prescription cannot be met, section 36(2)(a) of the Act requires the licensee to submit to the district manager a report as to why its requirements cannot be met, and the extent to which they will not be met. Slocan did not submit a report meeting this requirement either before or during the audit period.

- Many of the openings audited are good growing sites that should have been managed according to management objectives described in the silviculture prescriptions.

Slocan has advised that the natural regeneration of cottonwood specified in the silviculture prescriptions proved difficult in many of the audited openings. Slocan switched portions of two of the openings to conifers to overcome difficulties associated with natural regeneration. Nevertheless, it was apparent at the time of audit that the condition of the stands had been known for some time, and the audit found that there had been insufficient action taken to resolve the deficiencies.

Four of the non-compliant openings were required to reach free growing in prior years, and so any failure to achieve free-growing status would reflect non-compliance in those years. In the absence of actions to resolve the deficiencies, the state of non-compliance relating to those openings continues to the audit period.

There was a small population of silviculture activities (planting and brushing) in the audit area. While the activities sampled in the audit area were reasonable in that they followed the silviculture prescriptions and created a reasonable expectation that free growing would be achieved on those areas, the overall audit results reflect a major failure in Slocan's management of the openings, and warrant an adverse opinion regarding overall silviculture performance in the audit area.

We did not examine Slocan's silviculture performance in those parts of the licences outside the audit area, and therefore are unable to comment on the status of the silviculture program for the licences as a whole.

Slocan has recognized that the free-growing obligation has not been met on many of the openings, and subsequent to the audit has reported to the district manager under section 36 of the Code, and applied for silviculture prescription amendments that describe how free growing will be achieved on the problem areas.

4.0 Other Comments

Operational planning requirements of the Forest Practices Code

The Slocan forest development plan was required to specify measures that would be carried out to protect forest resources (section 10(1)(c) of the Act). To meet this requirement, the plan had to meet the specific requirements of the *Operational Planning Regulation* and the objectives of any landscape level plans that had been designated by government as higher level plans.

Under the Code, such landscape level planning is expected to provide direction to forest development plans through the setting of landscape level objectives, which typically include objectives for the maintenance of sequential stages of the forest, biodiversity and for the management of wildlife habitat.

In the Fort Nelson Forest District, such direction is provided by the Fort Nelson LRMP and associated objectives contained in draft landscape unit plans. However, at the time of submission of Slocan's forest development plan, and at the time of audit, neither the LRMP nor any of the associated objectives in landscape unit plans had been declared as higher level plans under the Code.

As this was a compliance audit, and any LRMP objectives are not Code requirements, the audit did not specifically address the extent to which these objectives had been incorporated into the plan. However, a review indicated that Slocan's forest development plan was consistent with the direction in the LRMP and associated objectives in draft landscape unit plans.

5.0 Audit Opinion

a. Opinion on Operational Planning; Timber Harvesting; Fire Preparedness and Planning; Road Construction, Maintenance and Deactivation

In my opinion, the operational planning; timber harvesting; fire-preparedness planning; fire hazard abatement practices; and the construction, maintenance and deactivation of roads carried out by Slocan Forest Products Ltd. on Forest Licences A17007 and A22797, and Pulpwood Agreement 14 in the audit area, from January 1, 2000, to June 29, 2001, were in compliance, in all significant respects, with the requirements of the Code as of June 2001. No opinion is provided regarding fire-fighting tools and equipment in the field.

b. Adverse Opinion on Silviculture Activities and Obligations

In my opinion, the silviculture practices carried out by Slocan in the audit area did not comply with the Code. As described in Section 3.0, 13 of 15 openings that were required to achieve free-growing status before or during the audit period have not attained a free-growing state.

The natural regeneration specified in the silviculture prescriptions for some of the 12 harvested cottonwood stands had proved difficult. Slocan had completed surveys and so had known the condition of the stands for some time, but took insufficient action to resolve the deficiencies and did not perform the required reporting of the deficiencies to the district manager in a satisfactory manner. Also, 12 of the 15 openings were not sufficiently re-stocked, and so free-growing status cannot be achieved without intervention.

There was a small population of silviculture activities (planting and brushing) in the audit area. While the activities sampled in the audit area were reasonable in that they followed the silviculture prescriptions and created a reasonable expectation that free growing would be achieved on those areas, the overall audit results reflect a major failure in Slocan's management of the openings, and warrant an adverse opinion regarding overall silviculture performance in the audit area.

The audit did not examine Slocan's silviculture performance in those parts of the licences outside the audit area, and therefore provides no comment on the status of the silviculture program for the licences as a whole.

Slocan has recognized that the free-growing obligation has not been met on many of the openings, and subsequent to the audit has reported to the district manager under section 36 of the Code, and applied for silviculture prescription amendments that describe how free growing will be achieved on the problem areas.

In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

Sections 2.0 and 3.0 of this report from the auditor describe the basis of the audit work performed in reaching this opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining

sufficient planning and forestry practices to support an overall evaluation of compliance with the Code.

Jon Davies, CA
Auditor of Record
Victoria, British Columbia
April 8, 2002

[i] For the audit season of 2001, the Board had approved an audit of a specific area of land, comprising one or more landscape units. Through a random selection process of the 11 forest districts that have had no audits of any type within the district since 1996, Board staff randomly selected the Fort Nelson Forest District. After reviewing the activities occurring within the district, Board staff identified those landscape units where multiple activities occurred, and these units were reviewed and judgementally clustered to create reasonable-sized units with multiple activities. From a population of five potential units, the cluster including the Eskai, Klua and Big Beaver landscape units was randomly selected as the area to be audited in 2001.

[ii] A forest development plan is an operational plan that provides the public and government agencies with information about the location of proposed roads and cutblocks for harvesting timber over a period of at least five years. The plan must specify measures that will be carried out to protect forest resources. It must also be consistent with any higher level plans. Site-specific plans are required to be consistent with the forest development plan

[iii] A silviculture prescription is a site-specific operational plan that describes the forest management objectives for an area to be harvested (a cutblock). The silviculture prescriptions examined in the audit are required to describe the management activities proposed to maintain the inherent productivity of the site, accommodate all resource values, including biological diversity, and produce a free-growing stand capable of meeting stated management objectives. Silviculture prescriptions must be consistent with forest development plans that encompass the area to which the prescription applies

[iv] A free growing stand means a stand of healthy trees of a commercially valuable species, the growth of which is not impeded by competition from plants, shrubs or other trees.

C. Audit of Forest Planning and Practices: Oil and Gas Activities

Board Report

This is the Board's report on compliance with the Forest Practices Code, in the audit area, for forestry activities carried out by oil and gas companies. The area selected for audit is made up of a cluster of the Eskai, Klua, and Big Beaver landscape units, plus portions of two riverine landscape units. The audit area extends from Fort Nelson southwest along the Prophet River and southeast along the Fort Nelson River to the Fort Nelson Forest District boundary (see map on page 6). All Code related activities therein were subject to audit.

The audit examined the activities and obligations of oil and gas companies in the audit area for compliance with the *Forest Practices Code of British Columbia Act* and related regulations (the Code). The period for which the activities and obligations were examined was January 1, 2000, to June 28, 2001.

The major oil and gas activities undertaken in the audit area during the audit period were construction of well sites and access roads by Anadarko Canada Corporation (Anadarko), and by Berkley Petroleum Corporation (Berkley); as well as the construction of pipelines and access roads by Anadarko, Berkley and Petro-Canada. Effective March 16, 2001, Berkley became Anadarko Canada Energy Ltd., a wholly owned subsidiary of Anadarko Canada Corporation.

The Report from the Auditor provides further details on the scope of the audit, and detail concerning the audit findings. The Report from the Auditor is based on the audit procedures described in Part II A of this report.

The Board considered the Report from the Auditor, along with supporting audit evidence, and written representations from Anadarko and Petro-Canada. The Board affirms the auditor's findings and conclusions.

The audit found non-compliance with the Code in some pipeline construction activities. In addition, the auditor was unable to provide an audit opinion for the construction and maintenance of forest roads, due to the inability of the parties to provide an accurate listing of roads in the area, combined with the inability to determine precisely which of the variety of legislated standards in force applied to specific road sections.

The Board is concerned that water was not being well managed in this area. The instances documented in the Report from the Auditor reflect practices that involved insufficient drainage and erosion control measures around fish streams. Such practices are not

consistent with Code requirements, and have the potential to cause significant harm to forest resources.

In its representations to the Board, Anadarko informed the Board that, shortly before the audit fieldwork was conducted, a 20-year rainfall event took place in the audit area. However, the Board points out that the Code requires all stream culverts and permanent bridges to be constructed to withstand the effects of a 100-year rainfall event. Temporary bridges must be designed for a 50-year event. In other words, the Code requires stream crossings to be designed and constructed to manage greater rainfall events than occurred in the audit area prior to the audit fieldwork.

Exploration and well-drilling activities by the oil and gas industry operate on very short time schedules, and demand a high degree of confidentiality. The Oil and Gas Commission (OGC) acts as a "one window" approval agency intended to efficiently meet the needs of that industry, and protect environmental values.

During the time period audited by the Board, approvals for building some seismic lines and roads were based on the submission of logging plans to the OGC in a format used by the Ministry of Forests (MOF). When a forest licensee prepares and submits a logging plan to MOF for approval, the licensee has fulfilled Code requirements to prepare assessments, which identify the plan's likely impacts to the environment, in advance of the plan approval. The oil and gas industry operates on a much shorter timeframe than the forest industry. When oil and gas licensees prepare logging plans for OGC approval, they prepare generic plans and do not complete assessments of the area potentially impacted. The OGC generally approves the plan with the expectation that the licensee will comply with the Code as the work progresses. However, not having completed any assessments, the potential impacts to the environment have not been identified in advance of the approval.

Further, the Board finds that operators tend to rely on the OGC approval of the plan as completing any requirements they have to comply with the Code. They do not carry out any Code-required assessments following the approval. However, the company officials completing and submitting the plans for approval by the OGC sign a statement attesting to awareness that the logging plan requires compliance with the *Forest Practices Code of British Columbia Act*. Therefore, the approval of a plan by the OGC does not relieve the licensees of any further obligations to comply with the requirements of the Code.

Not only are there three separate pieces of legislation under which road construction may be approved, but the Board understands that the OGC does not keep records of roads that are constructed or used by its clients, other than those designated as petroleum development roads. The result is inability to identify what roads exist or what the standards of construction and maintenance are for these roads. The Board encourages a consolidation of the industry rules, legislation and regulation, so that approval, performance and monitoring of oil and gas activities, all to a specific standard, helps to protect forest environmental values.

The Board is aware of the complexity that results when an industry that is not forestry focused is required to meet the terms of legislation designed to protect forest values. Despite the difficulties caused by multiple authorities, the Board maintains that the focus should remain on the impact to the land, and it should be obligatory for oil and gas operators to maintain an awareness of legislation, specific to their activity, which is designed to protect these values.

Recommendation

In accordance with section 185 of the *Forest Practices Code of British Columbia Act*, the Board makes the following recommendation:

> The Oil and Gas Commission should examine the various means by which roads are approved for construction, maintenance and deactivation and develop an appropriate framework that eliminates inconsistencies and ensures an appropriate standard to ensure environmental stewardship. As an interim measure, oil and gas sector roads should be authorized under the *Petroleum and Natural Gas Act* rather than the *Land Act*, to ensure environmental standards are applied.

In accordance with section 186 of the Act, the Board requests that the Oil and Gas Commission advise the Board by March 31, 2003 of the actions taken to address this recommendation.

W.N. (Bill) Cafferata, RPF
Chair, Forest Practices Board
October 10, 2002

Auditor of Record Report: Oil and Gas Activities

1.0 Introduction

Area-based audit

As part of its 2001 compliance audit program, the Forest Practices Board (the Board) selected for audit three draft landscape units in the Fort Nelson Forest District. The area-based audit examined the activities of all parties with responsibilities under the *Forest Practices Code of British Columbia Act* and regulations (the Code), including forest tenure holders, range tenure holders, oil and gas companies, and resource agencies, as well as government Code enforcement activities. The results of the audits of the various activities are reported separately.

This report describes the audit of the oil and gas activities in the area.

Fort Nelson was selected randomly from 11 forest districts with no previous Board audit activity, and the three landscape unit areas were selected randomly to provide a cross-section of forest activity. In addition to the three landscape units, Eskai, Klua, and Big Beaver, the audit area includes portions of two riverine landscape units. The audit area is roughly triangular in shape, extending from Fort Nelson southwest along the Prophet River and southeast along the Fort Nelson River to the Fort Nelson Forest District boundary (see map on page 6).

The draft landscape units subject to audit are contained within the Fort Nelson Land and Resource Management Plan (LRMP). The area of the landscape units comprises a fairly small percentage of the Fort Nelson Timber Supply Area (TSA) – the TSA encompasses approximately 9,859,000 hectares (more than 10% of the area of British Columbia) and the audit area encompasses approximately 385,000 hectares.

The audit area is generally flat with poorly defined drainages except for main river and stream channels. There is typically poor drainage and muskeg conditions, thus the vast majority of timber harvesting occurs when the ground is frozen. Snow roads and ice bridges make up a large portion of the road network, and therefore most road construction activity occurs in the winter months. Many of the roads are on seismic lines cleared by oil and gas companies.

Oil and gas activity and the Code

Oil and gas exploration and development is a growing activity in northeastern British Columbia, and a significant source of revenue for the province. Exploration activities involve the cutting of seismic lines and tests to determine the presence of potential sources

of oil and gas. Potential areas are accessed by road, and test wells are drilled to confirm the presence of oil and gas. Once confirmed, permanent well sites and pipelines are established to remove and transport the oil or gas resource. Processing facilities and plants are also established in some locations. All of these activities can involve cutting trees and clearing forest land.

Cutting trees and clearing forest land is regulated by the provincial government, along with other aspects of oil and gas exploration and development. This report deals with cutting trees, clearing forest land, and certain road construction and maintenance activities undertaken in connection with oil and gas exploration and development.

The *Forest Act* authorizes the issuance of a "licence to cut" in the form of a master agreement for geophysical exploration under the *Petroleum and Natural Gas Act*, and development activities associated with well sites or pipelines under the *Pipeline Act* or the *Petroleum and Natural Gas Act*.

The *Forest Practices Code of British Columbia Act* provides for the Oil and Gas Commission (OGC) to require the holder of a master licence to cut to prepare and obtain approval for a logging plan, before proceeding to cut Crown timber. The issuance of cutting permits and approval of logging plans is the responsibility of the OGC.

The OGC, located in Fort St. John, is responsible for administering legislation pertaining to oil and gas activity, including the review and approval of applications for oil and gas exploration and development. It has assumed most of the oil and gas regulatory responsibilities formerly held by the Ministries of Energy and Mines; Forests; and Water, Land and Air Protection (which has many of the responsibilities of the former Ministry of Environment, Lands and Parks).

Land use plan status

The Fort Nelson LRMP was approved in 1997, but has not been declared a higher level plan.[i] The audit area lies entirely within the enhanced resource development category of resource management zone (RMZ), except for the two river corridors which are in the general management category, and the Klua Lakes Protected Area. The audit area consists of the Klua RMZ, a portion of the Fort Nelson RMZ, a portion of the Alaska Highway Corridor RMZ and the Klua Lakes Protected Area. There are no higher level plans in place for the audit area.

2.0 Audit Scope

The audit examined the activities and obligations of oil and gas companies in the Klua audit area for compliance with the *Forest Practices Code of British Columbia Act* and related

regulations (the Code). The period for which the activities and obligations were examined was January 1, 2000, to June 28, 2001.

The main activities undertaken in the audit area during the audit period were construction of well-sites and access roads, eight by Anadarko Canada Corporation (Anadarko), and seven by Berkley Petroleum Corporation (Berkley); and construction of pipelines and access roads, five by Anadarko, six by Berkley and three by Petro-Canada. Other oil and gas related activities, including clearing of seismic lines, were minimal.

Effective March 16, 2001, Berkley became Anadarko Canada Energy Ltd., a wholly owned subsidiary of Anadarko Canada Corporation.

The activities and obligations of the oil and gas companies were subject to the Code in the following respects:

- The construction of well sites, access roads and pipelines involved the harvesting of timber, and accordingly were subject to the Code requirements in logging plans and some requirements of the *Timber Harvesting Practices Regulation*.

  The assessment of compliance with Code requirements involved a comparison of the activities on the ground to the requirements outlined in the logging plans, certain requirements of the *Timber Harvesting Practices Regulation*, and consideration of the adequacy of the provisions in logging plans.

- The roads built under the *Petroleum and Natural Gas Act* were subject to certain construction, maintenance and deactivation requirements of the Code.

  Also, Anadarko, Berkley and Petro-Canada have road maintenance obligations related to those existing well-site access roads constructed under the *Petroleum and Natural Gas Act* after June 15, 1995, the effective date of Code implementation.

There were no roads authorized under road permits in the audit area. For those roads authorized and constructed under the *Land Act*, the Code does not apply, except for any provisions invoked through use of logging plans.

3.0 Audit Findings

The audit identified issues of concern in certain pipeline construction and road construction and maintenance activities.

Pipeline construction

At four locations where pipelines and their access roads cross streams, the audit found that Berkley had applied insufficient erosion-control measures in its pipeline construction activities. In two of these locations, there was excessive erosion of channel banks and of fill covering the pipeline, and slumping road fill entering the stream. Sediment was being transported downstream by erosion from these pipeline and access road crossings.

There were logging plans in place, describing planned erosion control measures, and in some instances certain measures had been completed. However, the logging plans did not prescribe adequate, site-specific measures for erosion control. While none of the individual instances could be said to have caused significant harm to forest resources, the practices were of serious concern because the nature and number of instances reflect practices that, if continued in the future, have the potential for greater environmental impact. I therefore concluded that the practices constituted significant non-compliance with the Code.[ii]

We were informed that north-eastern British Columbia received a level of rainfall significantly higher than historical averages for May and June, resulting in significant erosion in many areas, and we acknowledge that the audit area may have experienced an unusually wet spring. However, it is reasonable to expect the pipeline access to be built to a standard which can withstand unusually high rainfall such as a 1 in 20-year rainfall event.

The main sections of the Code to which the non-compliance relates are section 35 of the *Forest Practices Code of British Columbia Act* and section 33 of the *Operational Planning Regulation*. Oil and gas companies are required to establish logging plan provisions that are adequate for each site and then comply with those provisions. The approval of logging plans by the OGC does not reduce a company's responsibility for the adequacy of the plan.

The audit found that the pipeline construction activities carried out by Anadarko and Petro-Canada complied with Code requirements.

Road construction and maintenance

There is an extensive network of roads in the audit area. Some are permanent roads that can be used when dry or frozen. Others, including many built on seismic lines, can be driven only when frozen. The OGC provides approval for road construction, but does not maintain complete records of built roads, except for those designated as petroleum development roads. Furthermore, not all road construction is subject to Code requirements. Roads authorized under the *Petroleum and Natural Gas Act* must comply with certain construction, maintenance and deactivation requirements of the Code, but roads authorized under the *Land Act* are not required to comply with the Code, except to the extent of any requirements invoked through the use of a logging plan.

As a result, we were unable to identify the whole population of roads and their respective regulatory obligations.

Nevertheless, the audit field-assessed a large number of roads. While the general condition of roads in the audit area was reasonable, the audit identified some road maintenance deficiencies.

On one major petroleum development road, constructed under the *Petroleum and Natural Gas Act* and for which Petro-Canada is the designated operator, a portion of the road was repaired by Anadarko before and during the audit period. At a reconstructed stream crossing on this road, unprotected fill around the culvert inlet and ditchline was eroding into a stream; and culvert placement has created a barrier to fish passage. At another location, maintained by Petro-Canada, a crushed culvert inlet was filled with debris, and slumping of the road had caused road fill and sediment to enter a stream channel.

Roads constructed under the *Petroleum and Natural Gas Act* are subject to certain construction and maintenance requirements of the Code. The section of the Code to which the non-compliance relates is the maintenance requirements in section 18 of the *Forest Road Regulation*.

The main access road in the South Martin Creek area used by Berkley has a number of road maintenance issues. In one location where a blocked culvert has diverted a stream for approximately 200 meters, there is significant erosion of the ditchline and of road fill at the down-stream road crossing, and an absence of erosion control in certain ditchlines. Road fill and sediment was entering a fish stream at the road crossing.

We were unable to determine if the road was constructed under the authority of the *Land Act* or the *Petroleum and Natural Gas Act* or any other legislation, and are therefore unable to determine if there has been non-compliance with the Code. Anadarko indicated that this public road is in regular operational use and that subsequent repairs have been undertaken.

Because of the shared responsibility for non-compliance in the one instance, and uncertainty whether the Code applies in the second instance, the audit did not determine that these instances represented significant non-compliance. Also, while there had been quite substantial erosion in these instances, none of the items were found to be individually significant. Nevertheless, these instances reflect practices which involved insufficient drainage and erosion control measures, particularly around fish streams. Such practices are not consistent with Code requirements, and have the potential to cause significant harm to forest resources in the future. Improvement is warranted.

4.0 Other Comments

Whereas the Forest Practices Code was designed to establish a planning and operating regime applicable to forest and range practices, it is not entirely suitable to the oil and gas industry, and only certain aspects of the Code are applied among several other pieces of legislation.

The audit of oil and gas activities identified that the requirements of the Code as they relate to oil and gas operations are not sufficiently clear, and certain aspects require improvement.

The need for clarity and improvement can be seen in the differences in Code application to roads authorized under various legislation, and in the use of logging plans.

The oil and gas industry constructs and uses roads on Crown land in provincial forests to provide access for exploration activities or access to well-sites and pipelines. Roads can be authorized and built under the *Petroleum and Natural Gas Act*, the *Pipeline Act* or the *Land Act*, or under various road and special use permits.

Roads constructed under the authority of the *Petroleum and Natural Gas Act* are subject to the construction requirements of the Code, except for those relating to road layout and design. For roads authorized under the *Pipeline Act*, it is not clear if the Code's provisions for construction apply, and for roads authorized under the *Land Act*, the Code's provisions for construction do not apply. Also, only those roads constructed under the *Petroleum and Natural Gas Act* are subject to the road maintenance and deactivation requirements of the Code.

These differing requirements for roads authorized under various legislation, and the resulting different environmental standards for similar roads is inequitable and confusing, and likely to result in a higher risk of damage to forest resources.

As noted in section 1.0, the Code provides for the OGC to require the holder of a master licence to cut to prepare and obtain approval of a logging plan before harvesting Crown timber for the purposes of a road right-of-way. Approval of the logging plan is the responsibility of the OGC.

In typical forestry operations, tenure holders visit the site and then develop the prescriptions based on observed site conditions and resource features. In the case of oil and gas operations, in most instances the logging plan is submitted and approved before the operator has been to the site. Logging plan requirements therefore tend to be generic, and actual planning takes place as clearing and construction activity proceeds. The logging plan is therefore not really a plan at all, but rather a guideline or standard operating procedure from which a site-specific plan is developed in the field.

The audit identified a number of instances in which the logging plan requirements were either not met or were insufficient to protect the forest resources. The logging plan may not, therefore, be the right vehicle for prescription of practices by oil and gas companies. Improvement is warranted in both the approval process and the practices.

There is a need for government to consider revision of the regulatory framework, whether through the Code or other legislation, to achieve an adequate level of protection of forest resources in industrial activity undertaken by oil and gas companies.

5.0 Audit Opinion

Pipeline construction

In my opinion, the pipeline construction activities carried out by Anadarko Canada Corporation and Petro-Canada in the audit area from January 1, 2000, to June 28, 2001, complied with the Code.

In my opinion, the pipeline construction activities conducted by Berkley Petroleum Corporation in the audit area from January 1, 2000, to June 28, 2001, were not in compliance with the Code.

As described in section 3.0, the audit found that Berkley had applied insufficient erosion control measures in certain pipeline construction activities. In four locations, sediment was being transported downstream by erosion from these pipeline and access road crossings.

The logging plans, which authorize timber removal associated with the pipeline construction, did not prescribe adequate measures for erosion control. While none of the individual instances could be said to have caused significant harm to forest resources, the practices were found to constitute significant non-compliance because the nature and number of instances reflect practices that, if applied in the future, have the potential to cause greater environmental impact.

Road construction and maintenance

I am unable to provide an opinion as to whether the road construction and maintenance practices of the oil and gas companies in the audit area complied with the Code during the audit period.

The Oil and Gas Commission provides approval for road construction, but does not maintain complete records of built roads, except for those designated as petroleum development roads. Furthermore, not all road construction is subject to Code requirements. Roads authorized under the *Petroleum and Natural Gas Act* must comply with certain

construction and maintenance requirements of the Code, but roads authorized under the *Land Act* are not required to comply with the Code, except to the extent of any requirements invoked through the use of a logging plan.

As a result, we were unable to identify the whole population of roads and their respective regulatory obligations.

Nevertheless, the audit field-assessed a large number of roads. While the general condition of roads in the audit area was reasonable, the audit identified some issues of concern, as described in section 3.0.

At two locations on a major petroleum development road used by Anadarko and Petro-Canada, unprotected fill around the culverts was causing sediment to enter a stream channel. Another main access road used by Berkley has a number of road maintenance issues. In one location where a blocked culvert diverted a stream for approximately 200 metres, there was significant erosion of the ditchline and of road fill at the down-stream road crossing, and sediment was entering a fish stream at the road crossing. In this case, we were unable to determine if the road was constructed under the *Land Act* or the *Petroleum and Natural Gas Act*, and are therefore unable to determine if there has been non-compliance with the Code.

Because of the shared responsibility for non-compliance in the one instance, and uncertainty whether the Code applies in the second instance, as well as the inability to identify the population of roads with Code obligations, the audit has resulted in a denial of opinion with respect to road construction and maintenance activities.

However, while none of the items was individually significant, there had been quite substantial erosion in some of these instances, and they reflect practices that involved insufficient drainage and erosion control measures, particularly around fish streams. Such practices do not achieve the resource protection measures required by the Code, and have the potential to cause significant harm to forest resources in the future. Improvement is warranted in road construction and maintenance activities.

During the period of the audit, Anadarko was assessing the condition of the acquired Berkley assets. The company has recognized the problem pipeline and road sites and has conducted repairs.

Other comments

Without further qualifying my opinion, I draw attention to the incomplete and inconsistent rule set governing pipeline construction, stream crossings and road construction and maintenance. While those Code provisions that do apply are not perfectly designed for the oil and gas business, the drainage and erosion control provisions in the existing Code

requirements are necessary for stream protection, and though not perfect, are relevant and reasonably understood by the industry.

There is a need for government to consider revision of the present regulatory framework, whether through the Code or other legislation, to achieve an adequate level of protection of forest resources in industrial activity undertaken by oil and gas companies.

In reference to compliance, the term "in all significant respects" recognizes that there may be minor instances of non-compliance that either may not be detected by the audit, or that are detected but not considered worthy of inclusion in the audit report.

Sections 2.0 and 3.0 of this report from the auditor describe the basis of the audit work performed in reaching this opinion. The audit was conducted in accordance with the auditing standards of the Forest Practices Board. Such an audit includes examining sufficient practices to support an overall evaluation of compliance with the Code.

Jon Davies, CA
Auditor of Record
Victoria, British Columbia
July 24, 2002

[i] A higher level plan is a forest resource management objective that is established as legally binding by a written order. The objective applies to a resource management zone, landscape unit, sensitive area, recreation site, recreation trail or interpretive forest site. Higher level plans are a provision of the *Forest Practices Code of British Columbia Act* that give direction to operational plans.

[ii] Significant non-compliance is where the auditor finds that an event or condition, or an accumulation of events, conditions or practices, is significant and worthy of reporting. This includes situations in which the potential for harm is probable. That is, harm has not yet occurred but there is a strong likelihood that it will. Recurring sub-standard practices with the capability of causing harm meet this test.

III. Audit of the Government of British Columbia's Enforcement of the Forest Practices Code

III. Audit of the Government of British Columbia's Enforcement of the Forest Practices Code

Board Report

This is the Board's report on the adequacy of Forest Practices Code compliance and enforcement activities by government in the audit area. The area selected for audit is made up of a cluster of the Eskai, Klua, and Big Beaver landscape units, plus portions of two riverine landscape units. The audit area extends from Fort Nelson southwest along the Prophet River and southeast along the Fort Nelson River to the Fort Nelson Forest District boundary (see map on page 6). All Code-related compliance and enforcement activities of the responsible government organizations were subject to audit.

Organizations responsible for compliance and enforcement activities under the Forest Practices Code are the Ministry of Forests, the Ministry of Water, Land and Air Protection, the Ministry of Energy and Mines, and the Oil and Gas Commission. Due to the absence of mining activity involving forestry values, the Ministry of Energy Mines' compliance and enforcement activities were not audited.

The Report from the Auditor provides further details on the scope of the audit and the audit findings.

The audit examined government's planning, management direction and operational activities related to enforcement of the Code for timber harvesting; road construction, maintenance and deactivation; fire protection; silviculture; range; and oil and gas activities for the period January 1, 2000, to June 30, 2001. It examined the compliance and enforcement by government of forest activities performed by forestry, oil and gas, and range licensees during the audit period.

The Board considered the Report from the Auditor, along with supporting audit evidence, and written representations from the Fort Nelson Forest District of the Ministry of Forests, the Fort St. John office of the Ministry of Water, Land and Air Protection and the Oil and Gas Commission. The Board affirms the auditor's findings and conclusions.

The audit concluded that the Fort Nelson Forest District compliance and enforcement activities related to harvesting practices and in-block road construction were appropriate. However, the district conducted an insufficient number of inspections of roads, silviculture activities, and oil and gas activities, meaning that non-compliances by licensees in the area might not be detected.

There is no record of range inspections by the district. However, the Board accepts that the risk of significant impacts from range use in this forest district is very low. It may be

practical for the district to meet its range inspection obligations concurrently with the inspection of higher risk industrial activities.

The audit also concluded that enforcement action on a major licensee's silviculture obligations was both untimely and indecisive and, as a consequence, failed to ensure adequate performance by the licensee.

In addition, the audit concluded that jurisdictional gaps exist in Code enforcement for oil and gas activities. During the audit period, the Oil and Gas Commission did not have the authority to enforce Code related activities, and their inspections did not focus on Code requirements. As well, the Fort Nelson Forest District performed only a few inspections of oil and gas activities. The audit also concluded that the Ministry of Water, Land and Air Protection does not conduct regular field inspections, nor does that ministry enforce the Code. As a consequence, the Board is of the opinion that the level of compliance and enforcement activity for oil and gas activities within the scope of this audit was minimal, and must be improved upon and coordinated among the principal enforcement organizations.

Notwithstanding our comment above regarding the infrequency of oil and gas activity inspections, the Board notes that there was a substantial effort, during January and March 2001, to conduct two inter-agency compliance reviews of oil and gas activity. The Ministries of Water, Land and Air Protection, Forests, and the Oil and Gas Commission conducted the reviews, with input from the British Columbia Assets and Land Corporation and the federal department of Fisheries and Oceans. The result is a report entitled *Report on the Oil and Gas Compliance Review*, January and March 2001.

The multi-disciplined, multi-agency teams were assigned to specific geographic targets in the north, middle and south of northeastern British Columbia. The Board understands that the areas inspected by the multi-agency review teams are not the same as the area covered by this audit.

The report also does not define the standards used to determine compliance. However, the results conclude that 44 percent of 169 stream crossings audited were in a state of major non-compliance. The Board is not aware if any remediation or follow-up efforts have been undertaken or planned. Nonetheless, the Board applauds this commendable effort at inter-agency cooperation in enforcing environmental legislation for oil and gas activities.

Finally, the Ministry of Water, Land and Air Protection's response to the Auditor of Record's report gives the Board cause for concern. The ministry, in its representation, told the Board that staff conduct enforcement activities on a continuous basis, but tend to rely on the *Water Act*, the federal *Fisheries Act*, and the *Waste Management Act*, and not the Forest Practices Code, to deal with most environmental problems. The Board has difficulty visualizing how Code values can be fully protected using legislation other than the Code, or even why this should be the case. Nonetheless, it is apparent that the current Code

enforcement regime does not work well for the ministry. Accordingly, the Board encourages the ministry to participate in the development of a results-based forest practices code to ensure the new legislation meets the ministry's needs when it comes to enforcement.

W.N. (Bill) Cafferata, RPF
Chair, Forest Practices Board
October 10, 2002

Auditor of Record Report – Code Enforcement

1.0 Introduction

As part of the Board's 2001 audit program, the Forest Practices Board randomly selected a portion of the Fort Nelson Forest District as the location for a set of area-based audits. These included full scope compliance audits of forest practices associated with all *Forest Act* and *Range Act* agreements, conducted by forest and range licensees and oil and gas companies; and an audit of the appropriateness of government's enforcement. The results of the audits are reported separately. This report describes the results of the audit of government enforcement.

Section 176(b) of the *Forest Practices Code of British Columbia Act* directs the Forest Practices Board (the Board) to carry out periodic independent audits of the appropriateness of government enforcement under the Code. Three government ministries have authority under the Code for enforcement – the Ministries of Forests (MOF); Water, Land and Air Protection (MWLAP); and Energy and Mines (MEM). The Oil and Gas Commission (OGC) is involved in Code compliance monitoring related only to oil and gas activity.

The Fort Nelson Forest District encompasses approximately 9,859,000 hectares, which is more than 10 percent of the area of the province. The area randomly selected for the audit includes the Eskai, Klua and Big Beaver draft landscape units, as well as portions of the Prophet River and Fort Nelson River draft landscape units. The audit area encompasses approximately 385,000 hectares and is a roughly triangular-shaped, extending from Fort Nelson southwest along the Prophet River and southeast along the Fort Nelson River to the Fort Nelson Forest District boundary (see map on page 6).

The audit area is generally flat with poorly defined drainages, except for main river and creek channels. There has been relatively little forestry and oil and gas activity within the last few years, compared with other areas within the district. However, it is one of the few areas within the district where there are both types of activity at a level sufficient for audit.

A land and resource management plan (LRMP) was completed for the district in 1997 and provides guidance to planners and statutory decision makers. The audit area lies entirely within the enhanced resource development category of resource management zone (RMZ). The audit area consists of the Klua RMZ, a portion of the Fort Nelson RMZ, a portion of the Alaska Highway Corridor RMZ and the Klua Lakes Protected Area. There are no higher level plans[i] in place in the audit area.

2.0 Scope and Approach

The audit examined government's planning, management direction and operational activities related to enforcement of the Code for timber harvesting; road construction, maintenance and deactivation; fire protection; silviculture; range; and oil and gas activities for the period January 1, 2000, to June 30, 2001. It examined government's compliance and enforcement (C&E) of forest activities performed by forestry, oil and gas, and range licensees during the audit period.

The audit assessed three broad aspects of government enforcement: the design of the C&E organization and business processes; their application in practice through sampling both compliance and enforcement "transactions" in a number of forestry areas; and the management framework used to direct, support, monitor and report on C&E activity.

Audit Criteria

In assessing the appropriateness of government's enforcement of the Code, the following assessment criteria were applied:

- Government agencies obtain, use and maintain adequate information on the forest activities subject to compliance and enforcement.
- Government agencies have an effective way of identifying risks associated with forest activities and utilizing risk in inspection planning.
- Government agencies conduct a sufficient number of inspections, in a fair, objective and effective way, and accurately record and report results.
- Investigations and determinations are carried out in all applicable situations and only when warranted. They are performed in a fair, objective and consistent way, and are accurately recorded and reported.
- Government agencies establish, through operational plan approval and related processes, expectations for forest practices that are enforceable and in accordance with the Code.
- There are established organizational structures, policies and processes that contribute to and support appropriate enforcement of the Code.
- The decisions and actions of different parts of government responsible for enforcement of the Code are appropriate and coordinated.
- Reporting systems provide adequate information on agency performance in relation to enforcement objectives.

Candidate Activities

The forest activities carried out in the audit area during the audit period, and therefore subject to government enforcement, were:

- Forest practices carried out by one major licensee – harvesting of 20 cutblocks; associated road construction, maintenance and deactivation activities; fire protection tools and infrastructure; and silviculture activities and obligations.
- Oil and gas activities carried out by oil and gas companies – construction of 15 well-sites and access roads, and 14 pipeline rights-of-way, and clearing of a small number of seismic lines.
- Cattle management activities of one licence holder and horse management activities of another licence holder on two range tenures.

The government C&E activities examined included:

- the design of the C&E organization and business processes;
- the planning, conduct, recording and reporting of C&E activity related to harvesting, roads, silviculture, fire protection, oil and gas, and range; and
- the systems and processes used to manage C&E activity.

The MOF Fort Nelson Forest District (the district) performed the majority of C&E activities. During the audit period, the district conducted approximately 50 inspections of forest practices in the audit area.

The OGC does conduct inspections of various provisions of its licensing of oil and gas activity, including Code compliance. However, Commission legislation does not allow the OGC to conduct enforcement,[1] and so, under a memorandum of understanding, enforcement issues are referred to MOF.

MWLAP does not conduct Code compliance inspections. The audit examined the appropriateness of this arrangement in relation to MWLAP's responsibilities for water, fish and wildlife values.

The audit did not assess C&E activity by the Ministry of Energy and Mines because no mining activity involving timber removal was carried out in the audit area during the audit period.

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[1] A statutory amendment, Bill 36, in June 2002 removed the prohibition on OGC conducting enforcement of Code provisions in logging plans.

Audit Work and Activities Examined

The audit work involved extensive interviewing of agency staff; reviewing and evaluating policies, processes and controls within and between agencies; office-based procedures on a wide selection of agency C&E inspections; and field examination of selected roads, cutblocks, oil and gas operating areas (well-sites, access roads, seismic lines), and range tenures, on the ground and from the air using helicopters.

3.0 Summary of Conclusions

The audit examined the compliance and enforcement organization and activities of the agencies with Code enforcement responsibilities in three landscape units within the Fort Nelson Forest District for the period January 1, 2000, to June 30, 2001.

Three BC government agencies had responsibilities for, or were involved in, C&E in the audit area. The Ministry of Forests and the Ministry of Water, Land and Air Protection have responsibility for Code enforcement related to forestry and to oil and gas activity. The Oil and Gas Commission is involved in Code compliance monitoring related only to oil and gas activity.

Ministry of Forests – Forest and Range Activity

The Fort Nelson Forest District is appropriately enforcing the harvesting aspects of the Code for forestry activities. However, there are a number of shortcomings in its enforcement of other activities under the Code.

The district's C&E for harvesting and in-block roads activity was appropriate:

- adequate receipt, maintenance and use of information related to harvesting activities
- effective risk assessments and planning for inspections of harvesting activity
- conduct of a sufficient number of inspections to provide adequate coverage of harvesting and in-block road construction activity, but some weaknesses in documentation of inspection results.

Expectations for forest operations were adequately established through the Code, operational plans and district standard operating procedures for harvesting, in-block roads, silviculture and protection. Expectations for range operators in range use permits and plans were also adequate.

An appropriate organizational framework for C&E programming had been established by the end of the audit period. Improvements had been made to the district organization

structure, and direction, supervision and managerial oversight of C&E field technicians appeared to be reasonable.

However, significant shortcomings prevail in the district's C&E performance in relation to inspection of roads, silviculture, and range activities. The district conducted very few inspections of road construction activity, and those inspections that were conducted were not adequately documented. There were also insufficient inspections of silviculture activity and no range inspections. The general absence of inspection of these activities makes it unlikely that any non-compliance would be identified.

Our major concern with the compliance and enforcement of forestry activity was the district's failure to enforce the performance of a major licensee in achieving the required number of free growing trees in a number of cutblocks within the specified timeframe. The audit was not allowed access to investigation files[2] relating to these alleged silviculture contraventions, and so we were unable to fully assess the appropriateness of investigations and determinations. However, based on project file information, it was evident that enforcement action in many of these cases, all currently relevant to the audit period, had not been addressed in a timely and decisive manner by the district over a period of years. This aspect of the district's enforcement was not appropriate.

Oil and Gas Activities – Oil & Gas Commission and Ministry of Forests

The audit identified jurisdictional gaps in Code enforcement, specifically relative to oil and gas operations. The OGC has no direct responsibility for Code compliance and enforcement, but through agreement with MOF and WLAP, performs Code compliance monitoring as part of its inspections performed pursuant to other legislation. However, these inspections of oil and gas operations do not focus on Code provisions. The OGC may initiate corrective compliance action in the course of inspections, but legislation does not allow OGC to take Code enforcement action, and so, under a memorandum of understanding, formal enforcement action is referred to MOF. There was one referral of Code issues by OGC to MOF for enforcement action in the audit area in the audit period.

MOF performed very few inspections of oil and gas activity in the audit area during the audit period. The results of the Board's compliance audit of oil and gas companies in the audit area, conducted concurrently with this audit, revealed Code compliance issues that show that a greater level of inspection coverage by the responsible agencies is warranted. The agencies' combined Code inspection coverage of oil and gas activities in the audit area

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[2] Information on open investigations and determinations was withheld from the audit team. Section 179 of the *Forest Practices Code of British Columbia Act* empowers the Board to require a party to provide information or records related to an audit. Section 180 of the Act prohibits the Board from requiring such information to be produced if the attorney general certifies that provision of the information "may interfere with or impede investigation or detection of offences." The attorney general subsequently provided such a certification.

was inadequate, resulting in a risk that significant non-compliance and environmental damage would not be detected and corrective action not taken.

Coordination of activity between the responsible agencies is generally limited and unsystematic. In particular, the absence of interaction between the OGC and MOF, relating to the results of OGC inspections, combined with the incomplete assignment of roles, and the very few inspections conducted by MOF, results in significant weaknesses in government's Code C&E for oil and gas operations. The role design and associated interaction is not effective in its current form

Nevertheless, the OGC has the primary regulatory mandate for oil and gas operations and is generally equipped to play an important role in Code C&E. Under the OGC's various authorities – issuance of permits, receipt of timely information on the forest activities subject to enforcement, and on-site compliance monitoring, the OGC could exercise a significant role in Code C&E.

Although its empowering legislation does not allow OGC to take Code enforcement action, through its role in setting the context for operations, compliance inspections of Code aspects of oil and gas operations could be performed with much the same effect as traditionally applied by MOF for forest operations.

There are also significant weaknesses in the expectations established for oil and gas operators. Whereas the Forest Practices Code was designed to establish a planning and operating regime applicable to forest and range practices, it is not entirely suitable to the oil and gas industry, and only certain aspects of the Code are applied among several other pieces of legislation.

Road construction can be authorized under several different pieces of legislation, each with its own requirements and standards. The application of different requirements and the resulting different environmental standards for similar roads is inequitable and confusing, and likely to result in a higher risk of damage to forest resources.

Logging plans are usually created and approved before the operator actually visits the site. They therefore tend to include generic requirements, and the actual planning does not take place until clearing and construction proceeds. The logging plan is therefore not really a plan at all, but rather a guideline or standard operating procedure. The concurrent audit of oil and gas companies identified a number of instances in which the logging plan requirements were not met or were insufficient to protect forest resources. It may not, therefore, be the right mechanism for prescription of practices by oil and gas companies.

There is a need for government to consider revision of the regulatory framework, whether through the Code or other legislation, to establish clear and relevant expectations for operators, and to achieve an adequate level of protection of forest resources in industrial activity undertaken by oil and gas companies.

Ministry of Water, Land and Air Protection

MWLAP does not conduct a program of periodic field inspections nor does it apply the Code as the basis for its enforcement activity for either forestry or oil and gas activities. The ministry, primarily through its conservation officer service, limits its enforcement activity to the performance of investigations initiated through agency referrals or public complaints. Although issues of Code compliance may be referred to MWLAP, the ministry does not apply the Code as the basis for its enforcement investigations or determinations and thus was not involved in investigations of potential contraventions of the Code during the audit period. MWLAP's enforcement work is conducted under other legislation.

While the ministry, in its review and approval of forest development plans, has a mandate to attend to certain of the forest activities subject to enforcement, this review is not applied at the site level and the ministry does not monitor the progress of the plans it reviewed.

MWLAP's current hands-off approach to Code C&E does not provide assurance that the ministry is sufficiently informed about Code compliance in its areas of responsibility. The ministry's participation is inadequate in identifying and influencing site-specific issues and practices related to the environmental values within its core mandate and expertise.

Overall, MWLAP's failure to participate in Code enforcement, if only to influence or support MOF's lead role in Code enforcement, diminishes the effectiveness of the environmental monitoring of water, fish and wildlife values associated with the forestry practices of both forestry and oil and gas operators.

Ministry of Energy and Mines

The audit did not assess enforcement activity by the Ministry of Energy and Mines because no mining activity involving timber removal was carried out in the area during the audit period.

4.0 FINDINGS AND CONCLUSIONS

To respond to the needs of the agencies audited, the detailed findings and conclusions of the audit have been organized to distinguish the enforcement related to forestry and range operations from that related to oil and gas activities.

Section 4.1 addresses the business of compliance and enforcement of forestry activities by the Ministry of Forests. Section 4.2 addresses the business of compliance and enforcement of oil and gas activities by the Ministry of Forests and the Oil and Gas Commission. Section 4.3 addresses the enforcement of both forestry and oil and gas activities by the Ministry of Water, Land and Air Protection. Within each of these sections, the analysis addresses the

first five assessment criteria. Finally, section 4.4 addresses the three assessment criteria related to management of the enforcement program.

4.1 Enforcement of forestry activity

4.1.1 Criterion 1: *Government agencies obtain, use and maintain adequate information on the forest activities subject to enforcement.*

In order to undertake compliance and enforcement activities with assurance that the right activities are being examined, agencies must be informed of the forest activities taking place in the area. If not, there is an increased probability that non-compliance with the Code will not be identified and addressed.

The audit assessed whether government has systems in place whereby it obtains, uses and maintains sufficient information about forest practices to enable an effective program of periodic inspections.

Ministry of Forests

Although the Code does not require licensees to notify government of the commencement of forest practices, five day start-up harvesting notifications have been established as a condition of cutting permits for forestry licensees. Such notifications are noted on inspection plans and technician ledgers. However, these notification provisions do not apply to other activities – road construction and deactivation, silviculture and range.

For road construction activity, the roads inspector is notified by licensees through weekly telephone calls, but we did not observe how the information was tracked or used in inspection planning. For range activities, range use plans establish locations and timeframes for grazing and other operational requirements, and so the district is informed of the planned activities. Silviculture information is recorded and tracked in the ministry's Integrated Silviculture Information System (ISIS). For regeneration delay and free-to-grow obligations, the silviculture reporting system provides for complete information. For site preparation, the district is not aware of activities, and does not carry out inspections.

Conclusions

The district generally receives and utilizes sufficient information for harvesting and range activities and for regeneration delay and free-to-grow obligations. However, it is not clear that the district receives sufficient information regarding road construction and deactivation, and site preparation activities.

4.1.2 Criterion 2: *Government agencies have an effective way of identifying risks associated with forest activities and utilizing risk in inspection planning.*

Once government agencies have identified the activities eligible for enforcement, they need an effective method of determining where to place their inspection efforts. Because they cannot inspect all forest activities conducted by all parties, they need a way to allocate their resources to minimize the risk that impacts to the environment will not be detected.

The audit assessed whether government has an effective process for identifying risk and uses information on risk to target inspection efforts on higher risk activities and phases of operations.

Ministry of Forests

The district applies a refined risk rating system, incorporating licensee self-ratings, to identify and rate potential risks related to harvesting operations. This is applied directly to harvest inspection planning, priorization and conduct and considers all relevant risk factors. It also involves the creation of a monitoring plan, by the compliance field operations supervisor (FOS), with an ability to generate progress reports. However, this system was not used by the district to establish risk ratings for road, range or silviculture activity. MOF's *Compliance Procedures*, released in 2001, now provide guidance to districts on assessing risks in these programs.

Conclusion

Risk assessment is applied for harvesting activity, but not for road, range, or silviculture activities, resulting in failure to adequately apply risk considerations in inspection planning for these activities.

4.1.3 Criterion 3: *Government agencies conduct a sufficient number of inspections, in a fair, objective and effective way, and accurately record and report results.*

The effective conduct of inspections enables government to assess the results of forest practices, identify potential contraventions of the Code and initiate both corrective and enforcement actions. Weaknesses in inspections reduce government's ability to appropriately enforce the Code.

The audit assessed whether government's inspections covered a reasonable proportion of each type of activity, each party engaged in forest practices and each significant resource feature (fish streams, terrain, etc.). The audit also assessed whether the number of

inspections conducted was sufficient and whether the inspections were properly planned, performed and reported.

Ministry of Forests

Inspections in the audit area were generally performed by a single designated zone officer up to the time of his transfer at the end of February 2001. Although five C&E resource technicians were recruited in the late summer of 2000 to fill the vacant positions, there were virtually no inspections in the audit area in the remaining audit period after the zone officer's transfer. A total of 48 inspections of forestry activity were reported within the audit area and period – 46 of harvesting and two of roads.

Inspections were focused on harvest blocks. Actual planning and conduct of these inspections was generally effective, although there were weaknesses in documentation. Specifically, inspection forms did not provide specifics of those aspects of harvested blocks examined or the results, and the rationale for any expected follow-up was not consistently explained. The number of inspections was sufficient.

The district's engineering/oil and gas section is responsible for road and bridge inspections. Only two road inspections were conducted within the audit area and period. The FS50 – Road Inspection Report form was used to record and report these inspections. In these reports, the form was not completed appropriately, merely noting features without any compliance assessment or commentary that would inform future inspections or follow-up.

There were no inspections of planting or site preparation activities, or of the two range tenures within the audit period. The district considers range and silviculture activities and obligations to be low risk. In our view, low risk activities still warrant some level of inspection activity.

The district has indicated that there is no operational budget for inspecting off-block roads, range and silviculture activities. We recognize the limitations imposed by operating funds. However, management retains some flexibility to select inspection approaches and coverage between programs.

Conclusions

The district performed sufficient inspections of harvesting activity, but documentation could be improved.

There was insufficient inspection coverage of road construction and deactivation, silviculture (planting and site-preparation), and range activity.

4.1.4 Criterion 4: *Investigations and determinations are carried out in all applicable situations and only when warranted. They are performed in a fair, objective and reasonable way, and are accurately recorded and reported.*

Investigations are the primary tool for an in-depth examination of a suspected or alleged contravention of the Code. In many cases, the investigations will result from completion of an inspection, but they also can be initiated through other means, such as public complaints or licensee self-reporting.

The audit assessed whether investigations, and any subsequent determinations, were carried out in all applicable situations; conducted in a fair, objective and reasonable way; and accurately recorded and reported.

Ministry of Forests

Limited information was available to the audit on the conduct and results of specific investigations. There were 21 alleged silviculture contraventions and one trespass contravention being considered for investigation and registered on the ministry's Enforcement Action, Administrative Review and Appeal System (ERA) in the audit area. Other than information contained in silviculture project files, reports and other information on investigative actions and determinations (including access to the ERA system) were withheld from the audit team.

However, from information available in project files, it was clear that continuing silviculture non-compliance had prevailed for a number of years. As determined by the compliance audit findings of a major licensee, 13 of 15 areas that were required to achieve free-growing status before or during the audit period had not attained a free-growing state. Although the district did attempt to encourage compliance at various times, it was clear that the issue had not been addressed in an appropriately timely and decisive manner over an extended period of time.

The district reported that no determinations were made in the audit period.

Conclusion

Notwithstanding the limitation on the audit by the district's refusal to allow access to information on investigations in progress or under consideration, it is clear that the district did not apply its investigation and determination authority to the longstanding silviculture deficiencies in an effective way.

4.1.5 Criterion 5: *Agencies establish, through operational plan approval and related processes, expectations for forest practices that are enforceable and in accordance with the Code.*

Through operational plan approvals and related processes, MOF district managers and designated environment officials establish rules and expectations for licensee performance. It is important that such expectations are correctly established in accordance with the Code.

The audit assessed whether prescriptions and provisions in approved operational plans (forest development plans[ii], silviculture prescriptions[iii]) are clear, unambiguous, enforceable and have been established in accordance with the requirements of the Code.

Ministry of Forests

The district's review and approval processes have established appropriate Code standards for forest operators. Range use plans were developed primarily by the district and were generally adequate in setting Code expectations for tenure holders.

Conclusion

The district is generally establishing clear and enforceable plans for forest practices.

4.2 Enforcement of Oil and Gas Activity

Introduction

The *Forest Act* authorizes the issuance of a "licence to cut" in the form of a master agreement for geophysical exploration under the *Petroleum and Natural Gas Act*, and development activities associated with well sites or pipelines under the *Pipeline Act* or the *Petroleum and Natural Gas Act*.

The *Forest Practices Code of British Columbia Act* provides for the OGC to require the holder of a master licence to cut to prepare and obtain approval for a logging plan, before proceeding to cut Crown timber. The issuance of cutting permits and approval of logging plans is the responsibility of the OGC.

The OGC, located in Fort St. John, is responsible for administering legislation pertaining to oil and gas activity, including the review and approval of applications for oil and gas exploration and development. It has assumed most of the oil and gas regulatory responsibilities formerly held by the Ministries of Energy and Mines; Forests; and Water,

Land and Air Protection (which has many of the responsibilities of the former Ministry of Environment, Lands and Parks).

MOF has retained its legislated responsibility for enforcement of Code requirements relating to oil and gas activity.

4.2.1 Criterion 1: *Government agencies obtain, use and maintain adequate information on the forest activities subject to enforcement.*

In order to undertake compliance and enforcement activities with assurance that the right activities are being examined, agencies must be informed of the forest activities taking place in the area. If not, there is an increased probability that non-compliance with the Code will not be identified and addressed.

The audit assessed whether government has systems in place whereby it obtains, uses and maintains sufficient information about oil and gas activities to enable an effective program of periodic inspections.

Ministry of Forests

For oil and gas logging operations, the district receives copies of all approved oil and gas cutting permits and associated documentation from the OGC. The district assesses the risk associated with each logging plan. However, information concerning environmental values (e.g., stream classifications, wildlife habitat) is not of sufficient detail to allow for informed Code C&E assessment and inspection planning by the district. Once the OGC approves a project and mails a copy of the project file to MOF, direct contact between the two agencies is infrequent, although some joint agency initiatives are implemented.

There is no requirement for oil and gas operators to inform MOF of changes to information provided, including field operating schedules, and thus no systematic record of activity is maintained beyond that originally placed in individual project files.

Oil and Gas Commission

The OGC obtains and records information on the forest activities subject to enforcement as part of its license-to-cut applications and approvals. Operator submissions include a schedule of project activity. The OGC has established, by intent, a one-window application process for oil and gas activity. There is, nevertheless, provision for OGC to refer projects to MOF for review prior to approval. No such pre-approval referrals occurred in the audit area and period. Approved logging plan applications are forwarded to MOF in its lead role for Code enforcement.

Submission of weekly geophysical activity reports is required through the course of projects and, although available upon request, they are not regularly forwarded to MOF or MWLAP.

This information is applied by the OGC in its inspection planning, but only in a general manner, at the discretion of each OGC inspector. Code provisions are only one of a number of C&E inspection features (e.g., health and safety, engineering) addressed by OGC inspectors.

Conclusions

For oil and gas activity, the OGC obtains adequate and timely information on forest activities subject to enforcement, but does not adequately apply such information to the inspection of activity subject to Code provisions. Although the OGC forwards project files to MOF on a timely basis, the information concerning environmental values (e.g., stream classifications, wildlife habitat) is not of sufficient detail to allow for informed Code C&E assessment.

4.2.2 Criterion 2: *Government agencies have an effective way of identifying risks associated with forest activities and utilizing risk in inspection planning.*

Once government agencies have identified the activities eligible for enforcement, they need an effective method of determining where to place their inspection efforts. Because they cannot inspect all forest activities conducted by all parties, they need a way to allocate their resources to minimize the risk that impacts to the environment will not be detected.

The audit assessed whether government has an effective process for identifying risk and uses information on risk to target inspection efforts on higher risk activities and phases of operations.

Ministry of Forests

Risk assessments, using a separate oil and gas rating form, are performed by the district for approved applications forwarded by the OGC. However, since approved applications do not generally include adequate site-specific information (e.g., streams, wildlife and terrain), inaccurate risk ratings can result, weakening inspection planning.

Oil and Gas Commission

The OGC uses a risk assessment process in its inspection planning. However, Code compliance (and associated risk features) is only one of a number of elements that OGC

inspectors consider in their inspection planning and conduct, and is not a priority over other areas of inspection (e.g., health and safety). Generally, inspection planning priorities are established at the discretion of individual OGC inspectors. This can result in an overlooking of potential risk or harm to key forest resources.

Conclusion

The OGC does not perform Code related risk assessment in planning its inspection activity for oil and gas operations. MOF performs some risk assessment, but with limited information.

4.2.3 Criterion 3: *Government agencies conduct a sufficient number of inspections, in a fair, objective and effective way, and accurately record and report results.*

The effective conduct of inspections enables government to assess the results of forest practices, identify potential contraventions of the Code and initiate both corrective and enforcement actions. Weaknesses in inspections reduce government's ability to appropriately enforce the Code.

The audit assessed whether government's inspections covered a reasonable proportion of each type of activity, each party engaged in forest practices and each significant resource feature (fish streams, terrain, etc.). The audit also assessed whether the number of inspections conducted was sufficient and whether the inspections were properly planned, performed and reported.

Ministry of Forests

Prior to November 2000, the engineering/oil and gas section was responsible for oil and gas inspections. None were conducted within the audit area prior to transfer of inspection responsibility in November 2000 to the C&E compliance section. Since then, two oil and gas inspections were conducted within the audit area and period.

Oil and Gas Commission

The OGC has no direct responsibility for Code C&E and no legislative authority to conduct Code enforcement.

Although the OGC does not directly conduct Code enforcement inspections, by agreement with MOF and MWLAP, Code monitoring is performed as an adjunct of OGC inspections and corrective actions are initiated, applying OGC authorities, where deemed appropriate by the inspector. This corrective action is at the discretion of the inspector and, in the

absence of a specific mandate to enforce the Code, varies from official to official. Code monitoring is a by-product at site inspections, with no assurance that key Code areas are addressed. No inspections of Code compliance were reported in the audit area during the audit period.

The results of the Board's compliance audit of oil and gas companies in the audit area revealed Code compliance issues that show that a greater level of inspection coverage by the responsible agencies is warranted.

During the audit period, an audit of oil and gas compliance[3] was conducted by the agencies in another part of the Fort Nelson Forest District, reflecting the potential shortfall in their C&E coverage of oil and gas activity.

Conclusion

The agencies' inspection coverage of oil and gas activities in the audit area was inadequate, resulting in a risk that significant non-compliance and environmental damage is not detected and corrective action is not taken.

4.2.4 Criterion 4: *Investigations and determinations are carried out in all applicable situations and only when warranted. They are performed in a fair, objective and reasonable way, and are accurately recorded and reported.*

Investigations are the primary tool for an in-depth examination of a suspected or alleged contravention of the Code. In many cases, investigations will result from completion of an inspection, but they also can be initiated through other means, such as public complaints or licensee self-reporting.

The audit assessed whether investigations, and any subsequent determinations, were carried out in all applicable situations; conducted in a fair, objective and reasonable way; and accurately recorded and reported.

Ministry of Forests

One referral for oil and gas enforcement action was reported to have been received from OGC for the audit area and period and was considered for investigation. As with

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[3] The joint audit, entitled *Report on the Oil & Gas Compliance Review* - was conducted by OGC, MOF and MWLAP, and addressed compliance of oil & gas operators with all applicable legislation, including the Code.

silviculture investigations, the audit team was refused access to information on this potential contravention.

Oil and Gas Commission

Section 17(5) of the *Oil and Gas Commission Act* provides that only Code-mandated ministries (MOF and MWLAP) are authorized to enforce the Code and to apply its associated penalties and sanctions. Thus, the OGC refers such matters identified in its monitoring of oil and gas activity to the Code ministries for enforcement. Only one potential non-compliance was referred in the audit area during the audit period and is currently under investigation by MOF.

The results of the Board's concurrent compliance audit of oil and gas companies show that the risks to the environment associated with certain pipeline construction and road construction and maintenance activities warranted a higher number of inspections and potential referral.

Conclusion

We were unable to determine whether investigations were conducted in all applicable situations. The audit identified some potential contraventions that warranted further investigation.

4.2.5 Criterion 5: *Agencies establish, through operational plan approval and related processes, expectations for forest practices that are enforceable and in accordance with the Code.*

Through operational plan approvals and related processes, OGC officials establish rules and expectations for operator performance that can have a major influence on operator behavior. It is important that such expectations are correctly established in accordance with the Code.

The audit assessed whether provisions in oil and gas approvals are clear, unambiguous, enforceable and have been established in accordance with the requirements of the Code.

Ministry of Forests

Although there is provision and specific criteria for OGC referrals of logging applications to the ministry for review and comment – and thus a role by the district in setting expectations for oil and gas operators – no referrals were made in the audit area and period.

Oil and Gas Commission

The OGC reviews and approves all cutting permits for harvesting of trees associated with oil and gas activity, along with logging plans, and identifies performance expectations. In so doing, the OGC may refer applications to both MOF and MWLAP for review of those features within their respective mandates (e.g., forest road permits, in-stream work or other potential impacts on forest resources). Again, no such referrals to MOF, as the lead Code enforcement agency, were made in the audit area and period. Thus the OGC has the primary role in setting expectations for Code compliance.

However, in the current process, those front-end standards for review and consultation required of forestry operators are not as specifically applied to oil and gas operations and expected Code-related practices and standards (e.g., activities in riparian areas; road practices) are generally not adequately specified in logging plan approvals.

Applicability of legislation

Whereas the Forest Practices Code was designed to establish a planning and operating regime applicable to forest and range practices, it is not entirely suitable to the oil and gas industry, and only certain aspects of the Code are applied, among several other pieces of legislation.

The Board's audit of oil and gas activities identified that the requirements of the Code, as they relate to oil and gas operations, are not sufficiently clear, and certain aspects require improvement.

The need for clarity and improvement can be seen in the differences in application of the Code to roads authorized under various pieces of legislation, and in the use of logging plans.

The oil and gas industry constructs and uses roads on Crown land in provincial forests to provide access for exploration activities or access to wellsites and pipelines. Roads can be authorized and built under the *Petroleum and Natural Gas Act*, the *Pipeline Act* or the *Land Act*, or under various road and special use permits.

Roads constructed under the authority of the *Petroleum and Natural Gas Act* are subject to the construction requirements of the Code, except for the requirements relating to road layout and design. For roads authorized under the *Pipeline Act*, it is not clear if the Code's provisions for construction apply, and for roads authorized under the *Land Act*, the Code's provisions for construction do not apply. Also, only those roads constructed under the *Petroleum and Natural Gas Act* are subject to the road maintenance and deactivation requirements of the Code.

The application of different requirements and the resulting different environmental standards for similar roads is inequitable and confusing, and likely to result in a higher risk of damage to forest resources.

Logging plans

The Code provides for the OGC to require the holder of a master licence to cut to prepare and obtain approval of a logging plan before harvesting Crown timber for the purposes of a road right-of-way. Approval of the logging plan is the responsibility of the OGC.

In typical forestry operations, tenure holders visit the site and then develop the prescriptions based on observed site conditions and resource features. In the case of oil and gas operations, the logging plan is submitted and approved before the operator has been to the site. Logging plan requirements therefore tend to be generic, and actual planning takes place as clearing and construction activity proceeds. The logging plan is therefore not really a plan at all, but rather a guideline or standard operating procedure.

The audit identified a number of instances in which the logging plan requirements were either not met or were insufficient to protect the forest resources. The logging plan may not, therefore, be the right vehicle for prescription of practices by oil and gas companies. Improvement is required in both the approval process and the practices.

Conclusions

The OGC has the primary role in setting Code related expectations for oil and gas operators, despite MOF's responsibility for Code enforcement.

Whereas the Code was designed to establish a planning and operating regime applicable to forest and range practices, it is not entirely suitable to the oil and gas industry, and only certain aspects of the Code are applied among several other pieces of legislation.

The application of different requirements and the resulting different environmental standards for similar roads is inequitable and confusing, and likely to result in a higher risk of damage to forest resources.

The logging plan, created before the site is visited, is really not a plan at all, and may not therefore be the right mechanism for prescription of practices by oil and gas companies.

There is a need for government to consider revision of the regulatory framework, whether through the Code or other legislation, to establish clear and relevant expectations for operators, and to achieve an adequate level of protection of forest resources in industrial activity undertaken by oil and gas companies.

4.3 Ministry of Water, Land and Air Protection

MWLAP does not conduct a program of periodic field inspections nor does it apply the Code as the basis for its enforcement activity for either forestry or oil and gas activities. In the absence of periodic inspections, the ministry relies on referrals from MOF and complaints from the public to identify potential contraventions. The ministry, primarily through its conservation officer service, limits its enforcement activity to the performance of investigations initiated through agency referrals (primarily from OGC) or public complaints.

Although MWLAP – in its participation in the review and approval of forest development plans and through its access to oil and gas logging plan submissions – is able to access and provide input to the forest activities subject to enforcement, the ministry does not monitor, nor is there any systematic procedure to be informed by other agencies as work proceeds. In the absence of information on activities and risk, MWLAP's enforcement program is entirely reactive.

Thus, limited information on forest activities and practices precludes the ministry from enforcing Code provisions or from applying such information to its wider C&E role, mandate and potential actions under other legislation.

Although issues of Code compliance may be referred to MWLAP, the ministry does not use the Code as the basis for its enforcement investigations or determinations and thus was not involved in investigations of potential contraventions of the Code during the audit period.

Through its review and approval of forest development plans and access to OGC logging plan submissions – MWLAP can significantly influence the conduct of forest activities subject to enforcement. However, with a regional focus on higher level planning, priority in assigning resources has not been applied to site-specific stages of approvals. Thus, the ministry has limited involvement in setting site-level expectations for forestry or oil and gas operators.

Conclusions

MWLAP's current hands-off approach to Code C&E does not provide assurance that the ministry is sufficiently informed about Code compliance in its areas of responsibility.

The participation of MWLAP is inadequate in identifying and influencing site-specific issues and practices related to the environmental values within the its core mandate and expertise.

4.4 Management Organization and Direction

This section addresses the three assessment criteria related to the management and support of the agencies' enforcement programs.

4.4.1 Criterion 6: *There are established organizational structures, policies and processes that contribute to and support appropriate enforcement of the Code.*

Effective organizational structure, policy, management direction, staffing, training, resourcing, and oversight are necessary in order for government agencies to appropriately enforce the Code.

The audit assessed whether the organizational approaches adopted by the agencies support the effective enforcement of the Code; whether sufficient policy direction exists to guide and support agencies' C&E programs, whether clear and reasonable expectations are set for the operation of the C&E function, and whether the activities of the agencies are adequately monitored and supervised.

Ministry of Forests

The organization of the Fort Nelson Forest District was changed significantly during the audit period from a zonal structure to a pre-post organization with two C&E units – one focused on compliance (inspections) and the other on investigations. Each unit is directed by a field operations supervisor (FOS). The primary function of the investigations unit is to perform investigations. When investigation activity is low, the unit conducts compliance inspections.

C&E staffing was a significant district shortcoming in early 2000 with a single resource assistant assigned to C&E. However, this staff shortage did not lead to a diminishment in planned inspections in the audit area until after the transfer of the resource assistant in March, 2001. Five resource assistants were recruited to fill the vacancies in the late summer.

Inspections for roads and bridges, and for oil and gas were the responsibility of the engineering/oil and gas section until November 2000, when inspection responsibility was transferred to the C&E section.

For silviculture and range, most compliance inspections are conducted by program staff, who also have technical and administrative responsibilities in the program. The district C&E function is involved primarily when requested to handle investigations. MOF has not provided guidance as to an appropriate organization of C&E for silviculture and range. For range, there may be reasons why the independent C&E model should not be applied in that tenure holders are usually individuals, and informal C&E may be more suitable.

There was no activity by the Small Business Forest Enterprise Program in the audit area in the audit period, and so we were unable to assess the operation of the C&E organizational model in practice in this program.

Training and specialist needs are defined and support is available and accessed both internally and by the ministry head office and region. Staff performing enforcement functions have the prerequisite experience, and have been assigned the required authorities, to perform their C&E roles.

Performance expectations are established for those C&E officials involved in harvesting inspections. Similar expectations were not evident in the areas of roads, oil and gas, and range enforcement. That said, the size and co-location of staff in the district office allows a more informal and regular interaction between staff and their supervisors, and thus a potentially adequate monitoring of enforcement performance. However, such an informal approach, when not supported by effective front-end business planning (i.e., roads, oil and gas, range) may also lead to inadequate attention to the performance of responsible officials.

Conclusions

The district has improved its organizational model during the audit period.

However, there are still gaps in MOF's organizational model and approach for C&E relating to silviculture and range activities.

MOF establishes expectations for, and monitors the inspection activity of its staff for harvesting inspections, but not for other inspection types.

Oil and Gas Commission

The OGC has been established as generally a one-window approval agency for oil and gas activity in the province. Its primary roles are to receive and approve applications, and to regulate oil and gas exploration, development and production.

The audit did not examine the organization and management processes of OGC, as these are driven mainly by other legislation.

The OGC conducts field inspections of regulatory compliance by oil and gas operators and, for this purpose, has established a C&E capability, staffed in part by officials with forestry training and experience. Code monitoring does occur as one aspect of C&E inspections but, as noted earlier, is not generally the focus of such inspections.

Conclusion

The audit did not examine the organization and management processes of OGC, as these are driven mainly by other legislation.

Ministry of Water, Land and Air Protection

MWLAP has not established a program specifically responsible for compliance and enforcement of the Code. The ministry participates in Code C&E only through the front-end review and comment by forest ecosystem specialists on forest development plans.

The conservation officer service is the main agency within MWLAP assigned to perform the ministry's enforcement mandate, primarily through investigations. In the area of oil and gas, an industrial investigations unit has been assigned responsibily for investigative response and, with the exception of a junior conservation officer in Fort Nelson, all ministry support to the district is provided from Fort St. John. However, conservation officers neither conduct an inspection program nor apply the Code's provisions in their overall enforcement activity.

Because of MWLAP's minimal involvement in Code C&E, we did not assess the ministry's organization and management processes.

Conclusion

The audit did not assess MWLAPs organization and management processes, because of MWLAP's minimal involvement in Code C&E.

4.4.2 Criterion 7: *The decisions and actions of different parts of government responsible for enforcement of the Code are appropriate and coordinated.*

Effective interaction between the agencies responsible for enforcing the Code is necessary to ensure that no significant gaps in enforcement arise.

The audit assessed whether:

- respective roles, responsibilities and interactions are defined, agreed and documented;
- communication and referral within and between agencies takes place and is coordinated and effective; and
- there are no significant gaps in enforcement or duplication of agency effort.

Coordination of activity within the Fort Nelson area is influenced by the location of most C&E officials for OGC and MWLAP in Fort St. John. In any case, notwithstanding the travel costs associated with coverage of such a large land base, officials do strive to provide uniform service across their respective operating areas. In dealing with such a logistical challenge, effective coordination of C&E activity between agencies can enhance the application of scarce resources and avoid gaps in service.

To this end, memoranda of understanding (MOU's) between OGC, MOF and MWLAP have established management expectations for interagency coordination of activity. However, in reality, these MOU provisions are not being applied in a consistent or systematic fashion. Formal Code enforcement is performed as a priority activity by the MOF but with limited attention to operations outside harvesting blocks, particularly those associated with oil and gas operations. The OGC sets the one-window context for oil and gas operators, and exercises the only real monitoring presence for C&E of oil and gas activities. However OGC inspectors do not focus their inspections on Code-related conditions.

MWLAP does not use the Code as a basis for its enforcement actions and has had limited direct presence in the district apart from leadership of a district-wide audit of oil and gas activity early in 2000. Although a conservation officer is located in Fort Nelson, the ministry reported that no priority is given for MOF referrals or Code enforcement.

The audit identified jurisdictional gaps in Code enforcement related to oil and gas operations. Although OGC conducts its own inspections, these do not focus on Code provisions. The OGC may initiate corrective compliance action in the course of inspections, but legislation requires that formal enforcement action be referred to MOF. Although one referral was reported, no enforcement actions involving oil and gas were reported in the audit area during the audit period.

There is limited communication between the agencies. Regular forwarding by OGC to MOF of logging plan applications and approvals is the only systematic transfer of information between the agencies. MOF does not communicate back to OGC its actions on such files, except for providing copies of any determinations made against oil and gas companies. There is no regular sharing of information between MOF and MWLAP, other than at the time of certain forest development plan reviews.

Although there were shortcomings in inter-agency coordination and the flow of information between agencies related to Code enforcement, this appeared to be due more to lower priorities and limited resources for Code enforcement rather than lack of trust or confidence between the parties. The agencies did engage in one major joint assignment

during the audit period: an audit of oil and gas operations.[4] This was followed by meetings to review oil and gas issues encountered during the year.

As a result of shortcomings in interagency coordination, there is a significant potential for gaps in enforcement, particularly in the areas of oil and gas activity. Due to the above factors – low priority given to Code enforcement by MWLAP, the non-Code focus of OGC compliance and enforcement, the low priority for oil and gas enforcement by MOF – there is limited potential for duplication of agency effort.

Conclusions

There are jurisdictional gaps in Code enforcement related to and oil and gas operations. While the OGC conducts its own inspections, these do not focus on Code provisions, and legislation requires that formal enforcement action be referred to MOF and MWLAP.

Coordination of activity between the responsible agencies is generally limited and unsystematic. In particular, the limited interaction between OGC and MOF, relating to the results of OGC inspections, combined with the incomplete assignment of roles, and the very few inspections conducted by MOF, results in significant weaknesses in government's Code C&E for oil and gas operations. The role design and associated interaction is not effective in its current form.

MWLAP's failure to participate in Code enforcement, or to adopt an approach placing certain reliance on MOF's C&E, diminishes the effectiveness of the ministry in monitoring the effects of forestry operations on environmental values.

4.4.3 Criterion 8: *Reporting systems provide adequate information on agency performance in relation to enforcement objectives.*

In order to ensure the effectiveness of C&E, agencies need to be able to judge their performance by establishing objectives and intended outcomes, and then assessing performance through the use of performance indicators and reliable reporting systems.

The audit examined whether objectives for enforcement are established and consistent with government direction; and whether performance indicators are in place and used to evaluate performance in relation to strategic objectives.

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[4] The joint audit, entitled *Report on the Oil & Gas Compliance Review* – was conducted by OGC, MOF and MWLAP.

Ministry of Forests

An annual district business plan establishes expectations, including inspection targets, for the performance of MOF's compliance and enforcement program. Reporting systems for inspections (FTAS) and investigations (ERA) have been adopted and applied in the district office. However, the measures used are not sufficient to guide and assess performance. Although business planning processes are applied, goals for compliance and enforcement continue to be limited to a target number of inspections, and the only indicators of results are the number of inspections and contraventions.

Oil and Gas Commission

The OGC uses a business planning process, but there are no specific performance expectations or accountability provisions identified or reported by OGC relative to Code compliance and enforcement. Performance measures related to its other legislated responsibilities include the number of inspections and rates of non-compliance.

Ministry of Water, Land and Air Protection

There are no specific planning activities, performance expectations or accountability provisions identified or reported by MWLAP relative to Code compliance and enforcement.

Conclusions

Sufficient performance measures have not been developed by MOF or OGC to guide and measure the performance of their Code C&E activities. Reporting in MOF is limited to the ministry's traditional reporting of the number of inspections and contraventions.

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July 30, 2002

[i] A higher level plan is a forest resource management objective that is established as legally binding by a written order. The objective applies to a resource management zone, landscape unit, sensitive area, recreation site, recreation trail, or interpretive forest site. Higher level plans are a provision of the *Forest Practices Code of British Columbia Act* that give direction to operational plans.

[ii] A forest development plan is an operational plan that provides the public and government agencies with information about the location of proposed roads and cutblocks for harvesting timber over a period of at least five years. The plan must specify measures that will be carried out to protect forest resources. It must also be consistent with any higher level plans. Site specific plans must be consistent with the forest development plan.

[iii] A silviculture prescription is a site-specific operational plan that describes the forest management objectives for an area to be harvested (a cutblock). They are required to describe the management activities proposed to maintain the inherent productivity of the site, accommodate all resource values, including biological diversity, and produce a free-growing stand capable of meeting stated management objectives. Silviculture prescriptions must be consistent with forest development plans that encompass the area to which the prescription applies.